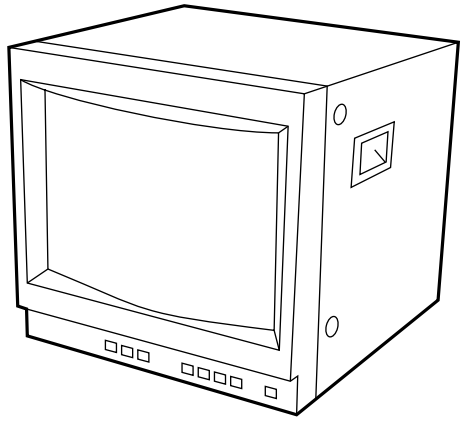
SERVICE MANUAL

SIIA CHASSIS

MODEL	DEST.	CHASSIS NO.
PVM-14N5A	AUS	SCC-N87D-A
PVM-14N5E	AEP	SCC-N86C-A
PVM-14N5MDE	AEP	SCC-N86F-A
PVM-14N5U	US/CND	SCC-N84B-A
PVM-14N6A	AUS	SCC-N87C-A
PVM-14N6E	AEP	SCC-N86B-A
PVM-14N6U	US/CND	SCC-N84A-A
SSM-14N5A	AUS	SCC-N87A-A
SSM-14N5E	AEP	SCC-N86A-A
SSM-14N5U	US/CND	SCC-N84E-A

MODEL	DEST.	CHASSIS NO.
PVM-20N5A	AUS	SCC-N87F-A
PVM-20N5E	AEP	SCC-N86E-A
PVM-20N5U	US/CND	SCC-N84D-A
PVM-20N6A	AUS	SCC-N87E-A
PVM-20N6E	AEP	SCC-N86D-A
PVM-20N6U	US/CND	SCC-N84C-A
SSM-20N5A	AUS	SCC-N87B-A
SSM-20N5E	AEP	SCC-N86G-A
SSM-20N5U	US/CND	SCC-N84F-A



TRINITRON® COLOR VIDEO MONITOR

SONY®

⚠WARNING

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

(PVM-14N5MDE only)

Electromagnetic Compatibility	CE This device compiles with the requirements of Directive 89/336/EEC concerning electromagnetic compatibility. This device meets EN50081-1/92 and EN50082-1/92.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.

LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARPUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE PUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

TABLE OF CONTENTS

1. OPERATING INSTRUCTIONS

1-1. PVM-14N5/14N6 (A/E/U), PVM-20N5/20N6 (A/E/U) 1-1
1-2. PVM-14N5MDE 1-9
1-3. SSM-14N5 (A/E/U), SSM-20N5 (A/E/U) 1-18

2. SERVICE INFORMATION

2-1. CIRCUIT BOARDS LOCATION 2-1
2-2. DISASSEMBLY 2-2
  2-2-1. Cabinet Removal 2-2
  2-2-2. A Board Removal 2-2
  2-2-3. Service Position 2-2
  2-2-4. Picture Tube Removal 2-3
  2-2-5. Removal of Anode-cap 2-4

3. SET-UP ADJUSTMENTS

3-1. PREPARATIONS (1) 3-1
3-2. PREPARATIONS (2) 3-4
3-3. OUTPUTTING IMAGES 3-4
3-4. RASTER CENTERING ADJUSTMENT 3-4
3-5. LANDING ADJUSTMENT 3-5
3-6. CONVERGENCE ADJUSTMENT 3-6
3-7. INCLINATION OF DEFLECTION YOKE ADJUSTMENT 3-7
3-8. G2 ADJUSTMENT 3-8
3-9. WHITE BALANCE ADJUSTMENTS 3-8
  3-9-1. VIDEO (Except SECAM) Adjustment 3-8
  3-9-2. Analog RGB Adjustment (PVM-14N6A, PVM-14N6E, PVM-14N6U, PVM-20N6E, PVM-20N6U) 3-9
  3-9-3. SECAM Cut-off Adjustment 3-10
  3-9-4. Sub-Brightness Adjustment 3-10
3-10. FOCUS ADJUSTMENT 3-10

4. SAFETY RELATED ADJUSTMENTS

4-1. B+ VOLTAGE CHECK 4-1
4-2. PROTECTION CIRCUIT (HOLD-DOWN CIRCUIT) CHECK 4-2

5. CIRCUIT ADJUSTMENTS

5-1. PREPARATIONS 5-1
5-2. DEFLECTION SYSTEM ADJUSTMENT 5-1
  5-2-1. Vertical Deflection Section Adjustment 5-1
  5-2-2. Horizontal Deflection Section Adjustment 5-1
  5-2-3. Horizontal Centering Adjustment 5-2

6. SEMICONDUCTORS

7. EXPLODED VIEWS

7-1. CHASSIS (14-INCH) 7-2
7-2. CHASSIS (20-INCH) 7-3

8. ELECTRICAL PARTS LIST

9. BLOCK DIAGRAMS

10. DIAGRAMS

10-1. FRAME SCHEMATIC DIAGRAMS 10-1
10-2. SCHEMATIC DIAGRAMS/PRINTED WIRING BOARDS 10-1
SCHEMATIC DIAGRAMS
A (1/2) Board 10-4
A (2/2) Board 10-6
CA Board 10-8
CB Board 10-9
Q Board 10-11
PRINTED WIRING BOARDS
A Board 10-2
CA Board 10-8
CB Board 10-9
Q Board 10-10

SONY

3-864-157-11(2)

SECTION 1
OPERATING INSTRUCTIONS

This section is extracted from operating instructions

1-1. PVM-14N5/14N6 (A/E/U), PVM-20N5/20N6 (A/E/U)

Trinitron®
Color Video Monitor

Operating Instructions Page 2 — EN
Mode d'emploi Page 16 — F
Bedienungsanleitung Seite 30 — D
Manual de instrucciones Página 44 — E
Istruzioni per l'uso Pagina 58 — I
使用说明书 72 页 — C

Trinitron

PVM-14N5A/14N5E/14N5U
PVM-14N6A/14N6E/14N6U
PVM-20N5A/20N5E/20N5U
PVM-20N6A/20N6E/20N6U

© 1998 by Sony Corporation

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____
Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltage are present inside the unit.
Do not open the cabinet. Refer servicing to qualified personnel only.

In the event of a malfunction or when maintenance is necessary, consult an authorized Sony dealer.

For the customers in the U.S.A.
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - If you are in any doubt consult a qualified electrician.

ATTENTION:
Picture distortion may occur if this monitor is positioned in close proximity to any equipment emitting electromagnetic radiation.

Precaution

On safety

- Operate the unit only with a power source as specified in "Specifications" section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.

If you have any questions about this unit, contact your authorized Sony dealer.

Table of Contents

Features **4**
Location and Function of Parts and Controls **5**
Front 5
Rear Panel 6
Using On-Screen Menus **8**
On-Screen Menu Configuration 8
Operation through On-Screen Menus 9
Functions of On-Screen Menus 10
Connections **13**
How to Connect the AC Power Cord 13
How to Connect a Cable to a BNC Connector .. 13
Specifications **13**
Troubleshooting **15**

About this manual
Before operating the unit, please read this manual thoroughly and retain it for future reference.

The explanation given in this manual can be applied to the following models unless noted otherwise.
When explanation differs among models, this is clearly indicated in this manual.
- PVM-14N5A/14N5E/14N5U (14-inch monitor)
- PVM-14N6A/14N6E/14N6U (14-inch monitor)
- PVM-20N5A/20N5E/20N5U (20-inch monitor)
- PVM-20N6A/20N6E/20N6U (20-inch monitor)

Illustrations of the video monitor are for the PVM-20N6A/20N6E/20N6U.

Features

Picture

Fine pitch Trinitron[1] picture tube
The fine pitch Trinitron tube provides a high resolution picture. Horizontal resolution is more than 500 TV lines at the center of the picture.

Comb filter
When NTSC video signals are received, a comb filter activates to make more accurate Y/C separation. This contributes to less of a decrease in resolution, cross color and cross luminance phenomena.

Beam current feedback circuit
The built-in beam current feedback circuit assures stable white balance.

Four color system available
The monitor can display NTSC, PAL, SECAM and NTSC4.43[2] signals. The appropriate color system is selected automatically.

Input

Analog RGB input connectors (for PVM-14N6A/14N6E/14N6U/20N6A/20N6E/20N6U only)
Analog RGB signals from video equipment can be input through these connectors.

Y/C input connectors
The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, ensuring video quality.

Automatic termination (connector with -⋀⋁- mark only)
The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connector. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

Functions

On-screen menus
You can set monitor operation settings by using the on-screen menus.

EIA standard 19-inch rack mounting
By using an MB-502B mounting bracket (for a 14-inch monitor, not supplied) or SLR-103A slide rail (for a 20-inch monitor, not supplied), the monitor can be mounted in an EIA standard 19-inch rack.

Attention – when the product is installed in a rack:

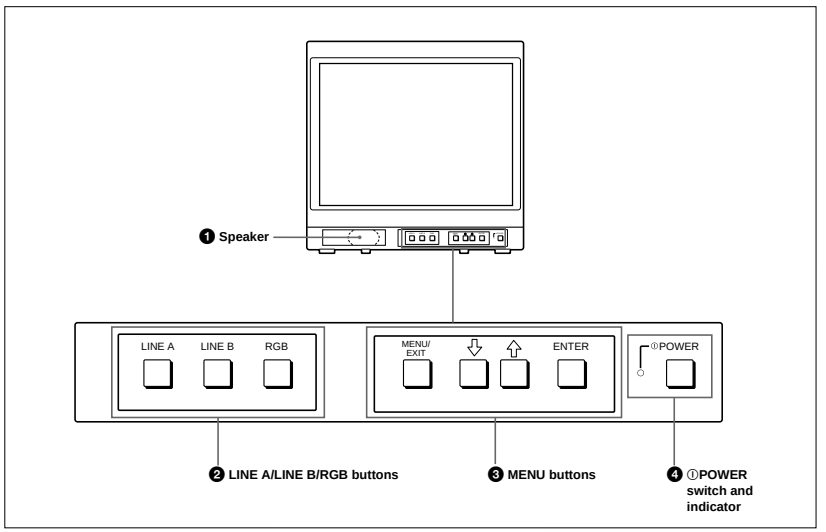
- **Elevated operating ambient temperature**
  If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient.
  Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature of 0 to +35 ºC (Tmra).
- **Reduced air flow**
  Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- **Mechanical loading**
  Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit overloading**
  Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable earthing**
  Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

1) **Trinitron**
"Trinitron" is a registered trademark of Sony Corporation.

2) **NTSC4.43**
The NTSC4.43 system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43MHz. When an NTSC recorded video program is played back with a Trident (PAL/SECAM/NTSC4.43) VTR, the NTSC4.43 signal is output.

Location and Function of Parts and Controls

Front



❶ Speaker

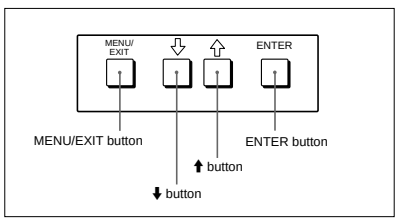
❷ LINE A/LINE B/RGB (input select) buttons
Press to select the program to be monitored.

Input signal	Press
Signal fed through the LINE A connector	LINE A
Signal fed through the LINE B connector	LINE B
Signal fed through the RGB connectors[a]	RGB[a]

a) Provided with the PVM-14N6A/14N6E/14N6U/20N6A/20N6E/20N6U only.

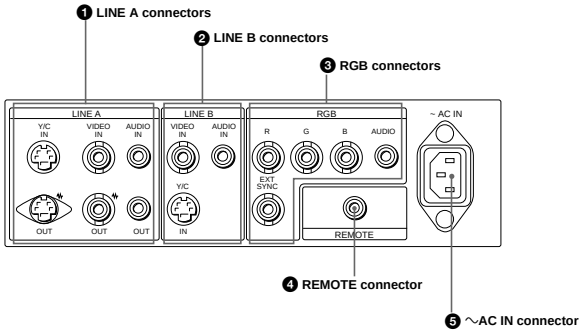
❸ MENU buttons
Press to make the menu appear.

For detailed information on MENU buttons, see "Operation through On-Screen Menus" on page 9.



❹ ⏻POWER switch and indicator
Press to turn the monitor on. The indicator lights in green.
To turn the power off, press this again.

Rear Panel



(The ⊣⋀⊢ mark indicates automatic termination.)

❶ LINE A connectors
Input connectors for the composite video, Y/C separate video and audio signals and their loop-through output connectors.
To monitor the input signal fed through these connectors, press the LINE A button on the front panel.

Note

The Y/C IN connector has priority over the VIDEO IN connector.
When connecting the cable to the Y/C IN connector, the Y/C IN connector is automatically selected and the VIDEO IN connector is disconnected even if the cable is connected.

Y/C IN connector (4-pin mini-DIN)
Connect to the Y/C separate output connector of a video camera, VCR or other video equipment.

Y/C OUT connector (4-pin mini-DIN)
Loop-through output of the Y/C IN connector.
Connect to the Y/C separate input connector of a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.

VIDEO IN connector (BNC-type)
Connect to the video output connector of video equipment, such as a VCR or a color video camera.
For a loop-through connection, connect to the video output connector of another monitor.

VIDEO OUT connector (BNC-type)
Loop-through output connector of the VIDEO IN connector. Connect to the video input connector for a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

AUDIO IN connector (phono jack)
Connect to the audio output connector of a VCR or other equipment. For a loop-through connection, connect to the audio output of another monitor.

AUDIO OUT connector (phono jack)
Loop-through output of the AUDIO IN connector.
Connect to the audio input connector of a VCR or another monitor.

❷ LINE B connectors
Input connectors for the composite video, Y/C separate video and audio signals.
To monitor the input signal fed through these connectors, press the LINE B button on the front panel.

Y/C IN connector (4-pin mini-DIN)
Connect to the Y/C separate output connector of a video camera, VCR or other video equipment.

VIDEO IN connector (BNC-type)
Connect to the video output connector of video equipment, such as a VCR or a color video camera.
For a loop-through connection, connect to the video output connector of another monitor.

AUDIO IN connector (phono jack)
Connect to the audio output connector of a VCR or other equipment. For a loop-through connection, connect to the audio output of another monitor.

❸ RGB connectors
(provided with the PVM-14N6A/14N6E/14N6U / 20N6A/20N6E/20N6U only)
Analog RGB input connectors for the R/G/B signals, external sync signals and audio signals.
To monitor the input signal fed through these connectors, press the RGB button on the front panel.

R/G/B (input) connectors (BNC-type)
Connect to the analog RGB outputs connectors of a video camera, VCR or other video equipment. The monitor operates on the external sync signal.
The monitor also can operate on the sync signal from the G channel by setting RGB SYNC to SYNC ON GREEN in the menu.

For detailed information on sync signal setting, see "3a RGB SYNC menu "on page 12 of "Functions of On-Screen Menus".

AUDIO IN connector (phono jack)
Connect to the audio output connectors of video equipment when the analog RGB signal is input.

EXT SYNC (external sync input) connector (BNC-type)
Connect to the sync signal output of a video camera, VCR or other video equipment.
When you set RGB SYNC to SYNC ON GREEN in the menu, the monitor operates on the sync signal from the G channel so that it is not necessary to use this connector.

For detailed information on sync signal setting, see "3a RGB SYNC menu "on page 12 of "Functions of On-Screen Menus".

❹ REMOTE connector (phono jack)
(provided with the PVM-14N6A/14N6E/14N6U / 20N6A/20N6E/20N6U only)
This connector functions as follows.
Open: When this connector is open, the current input signal is selected.
Ground: By grounding this connector, the input signal selected before the current signal is selected.

❺ ∿AC IN (inlet) connector
Connect the supplied AC power cord to this connector and to a wall outlet.

Using On-Screen Menus

You can make various settings and adjustments of the monitor using the on-screen menus.

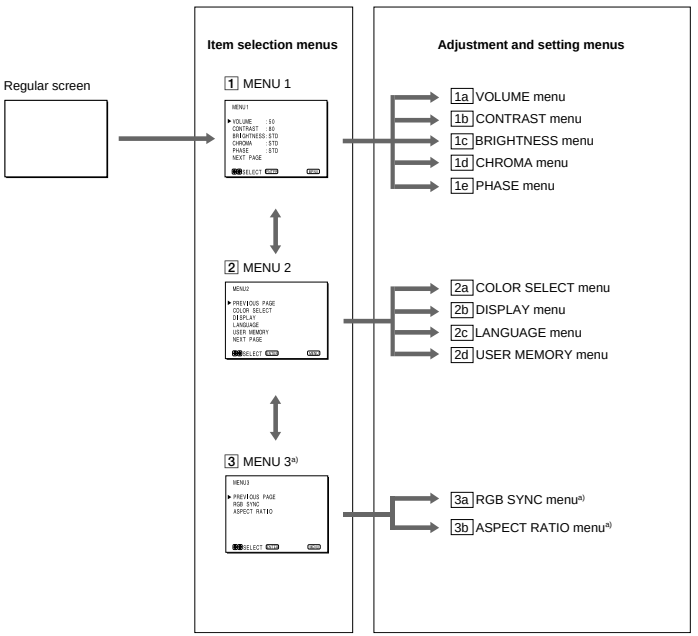
On-Screen Menu Configuration

The on-screen menu is composed of the following two menu types.

Item selection menu
You can select an adjustment and setting item such as sound volume, contrast, brightness, color intensity, color system and menu language by using the ↑,↓ and ENTER buttons.

Adjustment and setting menus
You can make desired adjustment or setting on corresponding menu. The settings and adjustments remain unchanged until next adjustment even if you turn off the power.
To reset the settings and adjustments to the factory-settings, select " FACTORY PRESET" from 2d USER MEMORY menu.

On-screen menu tree-chart

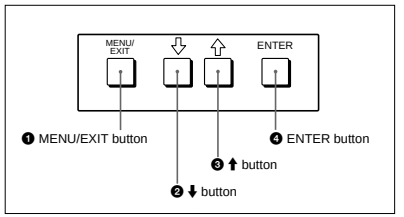


a) These menus (3 , 3a and 3b) are provided with PVM-14N6A/14N6E/14N6U /20N6A/20N6E/20N6U only.

Operation through On-Screen Menus

Menu operation buttons

There are four menu operation buttons on the front panel of the monitor.

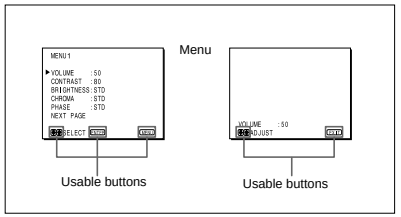


Button functions depend on the displayed menu. The following table shows the button functions on the item selection menus and adjustment and setting menus.

Button	Function on the item selection menus	Function on the adjustment and setting menus
❶ MENU/EXIT	To return to the regular screen.	To return to the item selection menu.
❷ ↓	To move the cursor downward.	To decrease value/ select item.
❸ ↑	To move the cursor upward.	To increase value/ select item.
❹ ENTER	To decide a selected item.	To decide a selected itema).

a) You can use the ENTER button only on the 2d USER MEMORY menu of the adjustment and setting menus.

Usable buttons depend on the displayed menu. Buttons that can be used on the menu are displayed at the bottom line of the screen. You can perform menu operation using displayed buttons.



Display of the usable menu operation buttons

Operating procedures

To display the menu, follow this procedure.

1 Press the MENU/EXIT (❶) button.
2 MENU 1 appears.

To select items other than ones not displayed on MENU 1
Select 2 MENU 2 or 3 MENU 3 1).

For details of how to select, see the "To change the item selection menus" described later.

2 Move the cursor to the desired item by pressing the ↓ or ↑ (❷, ❸) button.

3 Press the ENTER (❹) button.
The adjustment and setting menu selected in step **2** appears.

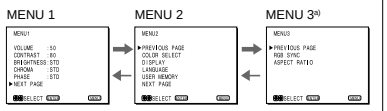
For detailed information of menus, see "Functions of On-Screen Menus" on page 10.

1) 3 MENU 3 is provided with PVM-14N6A/14N6E/14N6U/20N6A/20N6E/20N6U only.

Using On-Screen Menus

To change the item selection menus

Select NEXT PAGE on the menu to display next item selection menu and PREVIOUS PAGE on the menu to display the previous item selection menu.



➡ : When selecting NEXT PAGE
⬅ : When selecting PREVIOUS PAGE

a) MENU 3 is provided with PVM-14N6A/14N6E/14N6U/ 20N6A/20N6E/20N6U only.

How to change the item selection menu

To return to the item selection menu from the adjustment and setting menus

Press the MENU/EXIT (❶) button on the currently displayed adjustment and setting menu.

To close the menu (to return to the regular screen)

Press the MENU/EXIT (❶) button when the item selection menu is displayed. The on-screen menu disappears and the regular screen appears.

Using the Last Control Function

If you press the ⬆ or ⬇ button when the menu is not displayed, one of the following menu items that you adjusted last time is displayed.

- VOLUME
- CONTRAST
- BRIGHTNESS
- CHROMA
- PHASE

Then you can adjust the item immediately.

Functions of On-Screen Menus

Item selection menus

1 MENU 1

MENU 1 menu has the following selection items.

Item	Functions
VOLUME	To obtain the desired volume
CONTRAST	To adjust the contrast
BRIGHTNESS	To adjust the brightness
CHROMA	To adjust the color intensity
PHASE	To adjust the phase

2 MENU 2

MENU 2 menu has the following selection items.

Item	Function
COLOR SELECT	To select the color system of the input signal
DISPLAY	To select period of display
LANGUAGE	To select the menu language
USER MEMORY	To store and recall the values and settings adjusted by a user, and recall the factory-settings

3 MENU 3 (for PVM-14N6A/14N6E/14N6U/20N6A/ 20N6E/20N6U only)

MENU 3 menu has the following selection items.

Item	Function
RGB SYNC	To select the sync signal when the RGB signals are input
ASPECT RATIO	To select the aspect ratio

Adjustment and setting menu

1a VOLUME menu (Factory setting: 50)

Adjust the speaker volume.
The volume increases by pressing the ⬆ button.
The volume decreases by pressing ⬇ button.

1b CONTRAST menu (Factory setting: 80)

Adjust the contrast of the screen.
The contrast becomes higher by pressing the ⬆ button.
The contrast becomes lower by pressing ⬇ button.

1c BRIGHTNESS menu (Factory setting: STD)

Adjust the brightness of the screen.
The screen becomes brighter by pressing the ⬆ button.
The screen becomes darker by pressing ⬇ button.

1d CHROMA menu (Factory setting: STD)

Adjust the color intensity of the video signal.
The color intensity strengthens by pressing the ⬆ button.
The color intensity weakens by pressing ⬇ button.

Note

The color intensity of an composite video signal or a Y/C separate signal can be corrected on this menu. That of the RGB signals cannot be corrected.

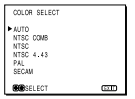
1e PHASE menu (Factory setting: STD)

Adjust the phase of the video signals.
The skin tone becomes greenish by pressing the ⬆ button.
The skin tone becomes purplish by pressing the ⬇ button.

Note

The phase of an NTSC composite video signal or a Y/C separate signal can be corrected on this menu. The PAL composite video signal or a Y/C separate signal and RGB signals cannot be corrected.

2a COLOR SELECT menu (Factory setting: AUTO)



Select the color system of the input signal.
AUTO: Input color systems are automatically selected.
When you input NTSC signal, comb filter will activate. To monitor NTSC signal with trap filter, select NTSC in this menu.

2b DISPLAY menu (Factory setting: SHORT TIME)

Select the period of displaying the color system of the current input signals.
The items have the following functions.

Item	Function
SHORT TIME	To display the kind of color system being used for several seconds on the screen each time you change the signal input.
LONG TIME	To display the kind of color system being used for approximately five minutes on the screen each time you change the signal input.
OFF	Not to display the kind of the color system.

2c LANGUAGE menu (Factory setting: ENGLISH)

Select the menu language among the five languages, English, German, French, Italian and Spanish.

Using On-Screen Menus

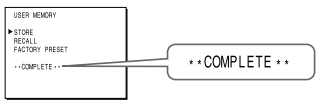
2d USER MEMORY menu

The items have the following functions.

Item	Function
STORE	To store all adjustments and settings currently set on each menu into the internal memory.
RECALL	To recall all adjustments and settings currently stored in the internal memory.
FACTORY PRESET	To reset the adjustments and settings currently set on each menu to the factory settings.[a]

a) The current settings and adjusted values are reset to the factory settings. The values and settings adjusted and stored in the internal memory by using the STORE menu, however, are not changed. To reset internally stored adjusted values and settings to the factory setting, select FACTORY PRESET, first, then select STORE.

When you press the ENTER (❹) button, the following message is displayed for about two seconds. The currently selected item becomes active when pressing the ENTER (❹) button.



The following menus are provided with the PVM-14N6A/14N6E/14N6U /20N6A/20N6E/20N6U only.

3a RGB SYNC menu (Factory setting: EXT SYNC)

Select the sync signal when the RGB signals are input. The items have the following functions.

Item	Function
EXT SYNC	To operate the monitor on an external sync signal fed through the RGB SYNC connector.
SYNC ON GREEN	To operate the monitor on the sync signal from the G channel.

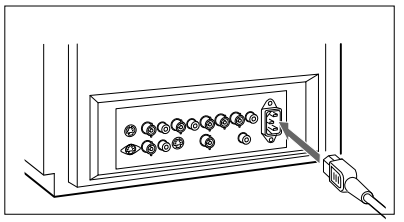
3b ASPECT RATIO menu (Factory setting: 4:3)

Select the aspect ratio of the screen.

Connections

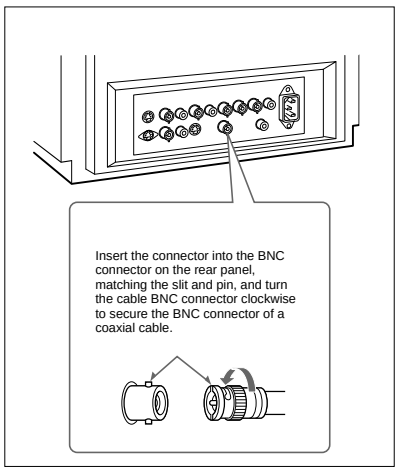
How to Connect the AC Power Cord

Connect the AC power cord (supplied) to the ∿AC IN connector and to a wall outlet.



How to Connect a Cable to a BNC Connector

Connect the coaxial cable with the BNC connectors to the BNC connectors on the rear panel as illustrated below.


Insert the connector into the BNC connector on the rear panel, matching the slit and pin, and turn the cable BNC connector clockwise to secure the BNC connector of a coaxial cable.

Specifications

Video signal

Color system	NTSC, PAL, SECAM, NTSC4.43
Resolution	500 TV lines
Frequency response	
LINE	6 MHz±3dB (Y signal)
RGB	6 MHz±3dB

Picture performance

Normal scan	7 % over scan of CRT effective screen area
H. linearity	Less than 8.0 % (typical)
V. linearity	Less than 7.0 % (typical)
Color temperature	D65

Inputs

LINE A/B

Y/C IN	4-pin mini-DIN(×2) *See the pin assignment on the next page.*
VIDEO IN	BNC connector (×2), 1Vp-p +3 dB, –6 dB, sync negative
AUDIO IN	Phono jack (×2), –5 dBu[a], more than 47 kilo-ohms

RGB (PVM-14N6A/14N6E/14N6U/20N6A/20N6E/20N6U only)

R/G/B	BNC connector (×3) 0.7 Vp-p +3 dB, –6 dB Sync on green: 0.3 Vp-p, negative
AUDIO IN	Phono jack (×1), –5 dBu[a], more than 47 kilo-ohms
EXT SYNC	BNC connector (×1) 4 Vp-p +3 dB, –6 dB, sync negative

REMOTE (PVM-14N6A/14N6E/14N6U/20N6A/20N6E/20N6U only)
Phono jack (×1)
Open: currently selected input signal
Low state (GND): input signal selected prior to the current input signal

a) 0 dBu = 0.775 Vr.m.s.

Specifications

Outputs

LINE A
- Y/C OUT: 4-pin mini-DIN (×1) loop-through, Automatic 75 ohms termination
- VIDEO OUT: BNC connector (×1) loop-through, Automatic 75 ohms termination
- AUDIO OUT: Phono jack (×1) loop-through

Speaker output: Output level: 0.8 W

General

CRT
- PVM-14N5A/14N5E/14N5U/14N6A/14N6E/14N6U: 14-inch CRT with P-22 phosphor Visible picture size 340 mm (13-inch measured diagonally)
- PVM-20N5A/20N5E/20N5U/20N6A/20N6E/20N6U: 20-inch CRT with P-22 phosphor Visible picture size 490 mm (19-inch measured diagonally)

Power consumption
- PVM-14N5A/14N5E/14N5U: 80W
- PVM-14N6A/14N6E/14N6U: 80W
- PVM-20N5U/20N6U: 100W
- PVM-20N5A/20N6A/20N5E/20N6E: 105 W

Power requirements
- 100 to 240 V AC, 50/60Hz
- *"For use of PVM-14N5U/14N6U/20N5U/20N6U", operate these monitors on 120 V AC.*

Operating conditions
- Temperature: 0 to +35°C
- Humidity: 0 to 90% (no condensation)

Transport and Storage conditions
- Temperature: –10 to +40°C
- Humidity: 0 to 90%

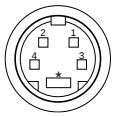
Dimensions (w/h/d)
- PVM-14N5A/14N5E/14N5U/14N6A/14N6E/14N6U: 346 × 340 × 414 mm (13⅝ × 13½ × 16⅜ inches)
- PVM-20N5A/20N5E/20N5U/20N6A/20N6E/20N6U: 449 × 441 × 502 mm (17¾ × 17⅜ × 19⅞ inches)

Mass
- PVM-14N5A/14N5E/14N5U/14N6A/14N6E/14N6U: Approx. 15 kg (33 lb 1 oz)
- PVM-20N5A/20N5E/20N5U/20N6A/20N6E/20N6U: Approx. 28 kg (61 lb 12 oz)

Accesory supplied
- AC power cord (1)
- Operating Instructions (1)

Pin assignment

Y/C IN connector (4-pin mini-DIN)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA subcarrier-input	0.286 Vp-p (NTSC), 300m Vp-p (PAL), burst Delay time between Y and C: within 0 ± 100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

Design and specifications are subject to change without notice.

Troubleshooting

This section may help you isolate the problem. Should the problem persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

Symptom	Possible causes and remedies
If colors are not accurately reproduced	The monitor input signal is deviated from the color system specifications (i.e. signals from VCRs). Proceed as follows to correct this phenomenon. **1** Confirm the color system of the input signal. **2** Select the same color system as that of the input signal on the COLOR SELECT menu. If the problem remains unsolved after corresponding color system is selected, briefly turn OFF the power, then turn ON the monitor again.

SONY

3-864-165-**11**(2)

Trinitron®
Color Video Monitor

Instructions for Use Page 2 — EN

Mode d'emploi Page 18 — F

Gebrauchsanweisung Seite 34 — D

Instrucciones de uso Página 50 — E

Istruzioni per l'uso Pagina 66 — I

使用说明书 82 页 — C

Trinitron

PVM-14N5MDE

© 1998 by Sony Corporation

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____
Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltage are present inside the unit.
Do not open the cabinet. Refer servicing to qualified personnel only.

In the event of a malfunction or when maintenance is necessary, consult an authorized Sony dealer.

Power Switch
The power switch is a functional switch only. To isolate the set from the mains supply remove the mains plug from the wall socket.

For the customers in the U.S.A.
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - If you are in any doubt consult a qualified electrician.

This unit contains substances which can pollute the environment if disposed carelessly. Please contact our nearest office or your local environmental office in case of disposal of this unit.

ATTENTION:
Picture distortion may occur if this monitor is positioned in close proximity to any equipment emitting electromagnetic radiation.

Precaution

On safety

- Operate the unit only with a power source as specified in "Specifications" section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container to transport the unit.

If you have any questions about this unit, contact your authorized Sony dealer.

Table of Contents

Features **5**
Location and Function of Parts and Controls **6**
Front 6
Rear Panel 7
Using On-Screen Menus **9**
On-Screen Menu Configuration 9
Operation through On-Screen Menus 10
Functions of On-Screen Menus 11
Attaching the Side Covers **13**
Connections **14**
How to Connect the AC Power Cord 14
How to Connect a Cable to a BNC Connector .. 14
Specifications **14**
Troubleshooting **16**

About this manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Attention – when the product is installed in a rack:

- **Elevated operating ambient temperature**
  If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient.
  Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature of 0 to +40 ºC (Tmra).
- **Reduced air flow**
  Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- **Mechanical loading**
  Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit overloading**
  Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable earthing**
  Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

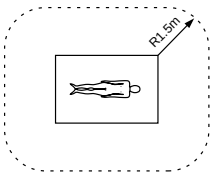
Be sure to connect the AC power cord to a grounded outlet.

Important safeguards/notices for use in the medical environments

1 All the equipments connected to this unit shall be certified according to Standard IEC601-1, IEC950, IEC65 or other IEC/ISO Standards applicable to the equipments.

2 When this unit is used together with other equipment in the patient area*, the equipment shall be either powered by an isolation transformer or connected via an additional protective earth terminal to system ground unless it is certified according to Standard IEC601-1 and IEC601-1-1.

* Patient Area



3 The leakage current could increase when connected to other equipment.

4 The operator should take precautions to avoid touching the rear panel input and output circuitry and the patient at the same time.

5 Model PVM-14N5MDE is a video monitor intended for use in a medical environment to display video pictures from cameras or other video system.

Symbols on the unit

Symbol	Location	This symbol indicates
	Front panel	Main power switch. Press to turn the monitor on or off.
	Rear panel	The equipotential terminal which brings the various parts of a system to the same potential.
	Inside the unit	Protective earth
	Rear panel	Alternating current
	Inside the unit	Presence of uninsulated “dangerous voltage” within the product’s enclosure that may be sufficient to constitute a risk of electric shock.
	Rear panel	Attention, consult ACCOMPANYING DOCUMENTS

Features

Picture

Fine pitch Trinitron[1] picture tube
The fine pitch Trinitron tube provides a high resolution picture. Horizontal resolution is more than 500 TV lines at the center of the picture.

Comb filter
When NTSC video signals are received, a comb filter activates to make more accurate Y/C separation. This contributes to less of a decrease in resolution, cross color and cross luminance phenomena.

Beam current feedback circuit
The built-in beam current feedback circuit assures stable white balance.

Four color system available
The monitor can display NTSC, PAL, SECAM and NTSC$_{4.43}$[2] signals. The appropriate color system is selected automatically.

Input

Y/C input connectors
The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, ensuring video quality.

Automatic termination (connector with ⊣⋀⊢ mark only)
The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connector. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

Functions

On-screen menus
You can set monitor operation settings by using the on-screen menus.

EIA standard 19-inch rack mounting
By using an MB-502B mounting bracket (not supplied), the monitor can be mounted in an EIA standard 19-inch rack.
For details on mounting, refer to the instruction manuals supplied with the mounting bracket kit.

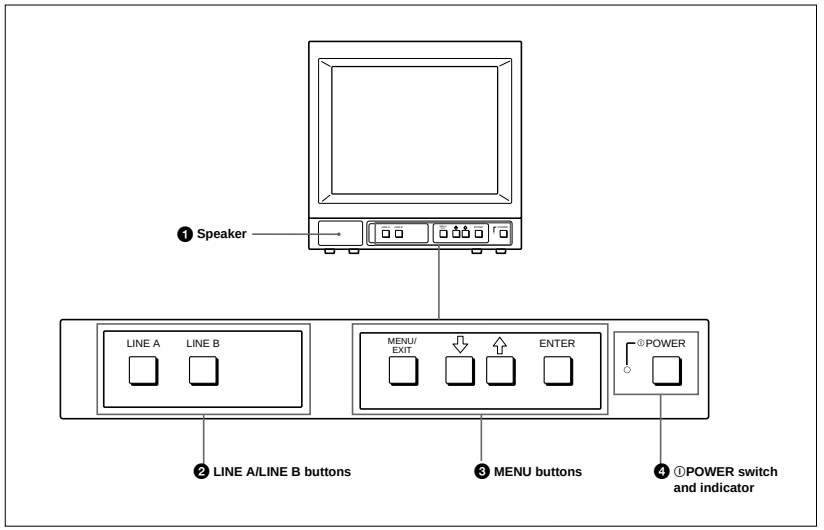
Side covers
The monitor can be covered with side covers. The side covers that protect the ventilation holes from splashes (of medicines, etc.) as much as possible.

1) Trinitron
“Trinitron” is a registered trademark of Sony Corporation.

2) NTSC$_{4.43}$
The NTSC$_{4.43}$ system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43MHz. When an NTSC recorded video program is played back with a Trident (PAL/SECAM/NTSC$_{4.43}$) VTR, the NTSC$_{4.43}$ signal is output.

Location and Function of Parts and Controls

Front



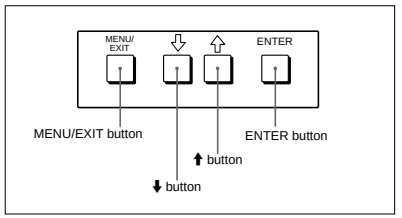
❶ Speaker

❷ LINE A/LINE B (input select) buttons
Press to select the program to be monitored.

Input signal	Press
Signal fed through the LINE A connector	LINE A
Signal fed through the LINE B connector	LINE B

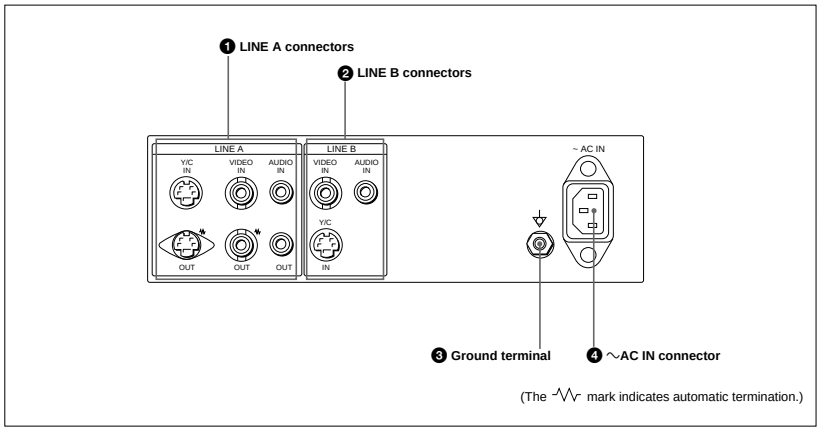
❸ MENU buttons
Press to make the menu appear.

For detailed information on MENU buttons, see "Operation through On-Screen Menus" on page 10.



❹ ⏻POWER switch and indicator
Press to turn the monitor on. The indicator lights in green.
To turn the power off, press this again.

Rear Panel



❶ LINE A connectors
Input connectors for the composite video, Y/C separate video and audio signals and their loop-through output connectors.
To monitor the input signal fed through these connectors, press the LINE A button on the front panel.

Note
The Y/C IN connector has priority over the VIDEO IN connector.
When connecting the cable to the Y/C IN connector, the Y/C IN connector is automatically selected and the VIDEO IN connector is disconnected even if the cable is connected.

Y/C IN connector (4-pin mini-DIN)
Connect to the Y/C separate output connector of a video camera, VCR or other video equipment.

Y/C OUT connector (4-pin mini-DIN)
Loop-through output of the Y/C IN connector.
Connect to the Y/C separate input connector of a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.

VIDEO IN connector (BNC-type)
Connect to the video output connector of video equipment, such as a VCR or a color video camera.
For a loop-through connection, connect to the video output connector of another monitor.

VIDEO OUT connector (BNC-type)
Loop-through output connector of the VIDEO IN connector. Connect to the video input connector for a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

AUDIO IN connector (phono jack)
Connect to the audio output connector of a VCR or other equipment. For a loop-through connection, connect to the audio output of another monitor.

AUDIO OUT connector (phono jack)
Loop-through output of the AUDIO IN connector.
Connect to the audio input connector of a VCR or another monitor.

Location and Function of Parts and Controls

❷ LINE B connectors
Input connectors for the composite video, Y/C separate video and audio signals.
To monitor the input signal fed through these connectors, press the LINE B button on the front panel.

Y/C IN connector (4-pin mini-DIN)
Connect to the Y/C separate output connector of a video camera, VCR or other video equipment.

VIDEO IN connector (BNC-type)
Connect to the video output connector of video equipment, such as a VCR or a color video camera. For a loop-through connection, connect to the video output connector of another monitor.

AUDIO IN connector (phono jack)
Connect to the audio output connector of a VCR or other equipment. For a loop-through connection, connect to the audio output of another monitor.

❸ Ground (⏚) terminal
Connect a GND cable.

❹ ∿AC IN (inlet) connector
Connect the supplied AC power cord to this connector and to a wall outlet.

Using On-Screen Menus

You can make various settings and adjustments of the monitor using the on-screen menus.

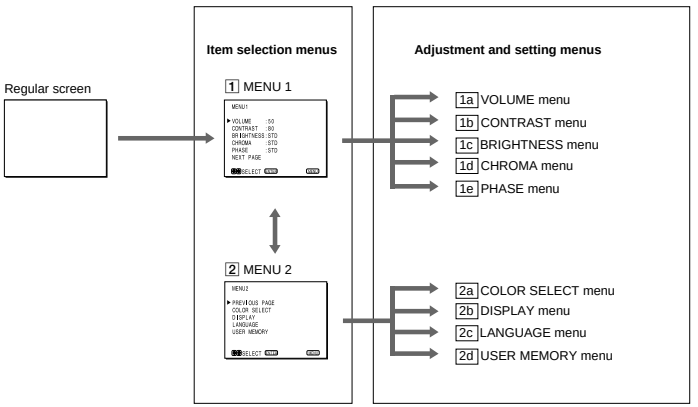
On-Screen Menu Configuration

The on-screen menu is composed of the following two menu types.

Item selection menu
You can select an adjustment and setting item such as sound volume, contrast, brightness, color intensity, color system and menu language by using the ↑,↓ and ENTER buttons.

Adjustment and setting menus
You can make desired adjustment or setting on corresponding menu. The settings and adjustments remain unchanged until next adjustment even if you turn off the power.
To reset the settings and adjustments to the factory-settings, select " FACTORY PRESET" from 2d USER MEMORY menu.

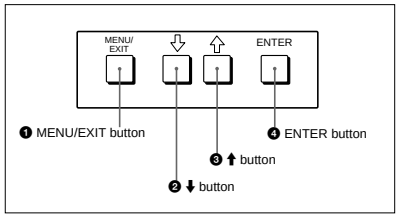
On-screen menu tree-chart



Operation through On-Screen Menus

Menu operation buttons

There are four menu operation buttons on the front panel of the monitor.

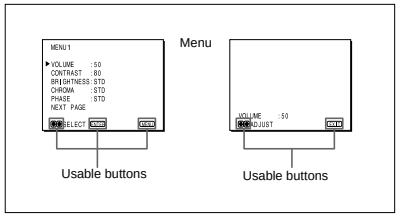


Button functions depend on the displayed menu. The following table shows the button functions on the item selection menus and adjustment and setting menus.

Button	Function on the item selection menus	Function on the adjustment and setting menus
❶ MENU/EXIT	To return to the regular screen.	To return to the item selection menu.
❷ ↓	To move the cursor downward.	To decrease value/ select item.
❸ ↑	To move the cursor upward.	To increase value/ select item.
❹ ENTER	To decide a selected item.	To decide a selected item[a].

a) You can use the ENTER button only on the 2d USER MEMORY menu of the adjustment and setting menus.

Usable buttons depend on the displayed menu. Buttons that can be used on the menu are displayed at the bottom line of the screen. You can perform menu operation using displayed buttons.



Display of the usable menu operation buttons

Operating procedures

To display the menu, follow this procedure.

1 Press the MENU/EXIT (❶) button.
1 MENU 1 appears.

To select items other than ones not displayed on MENU 1
Select 2 MENU 2.

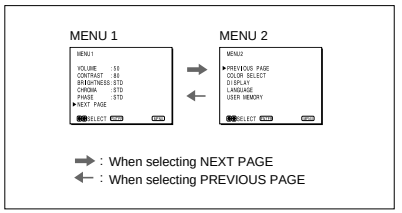
For details of how to select, see the "To change the item selection menus" described later.

2 Move the cursor to the desired item by pressing the ↓ or ↑ (❷, ❸) button.

3 Press the ENTER (❹) button.
The adjustment and setting menu selected in step **2** appears.

For detailed information of menus, see "Functions of On-Screen Menus" on page 11.

To change the item selection menus
Select NEXT PAGE on the menu to display next item selection menu and PREVIOUS PAGE on the menu to display the previous item selection menu.



How to change the item selection menu

To return to the item selection menu from the adjustment and setting menus
Press the MENU/EXIT (❶) button on the currently displayed adjustment and setting menu.

To close the menu (to return to the regular screen)
Press the MENU/EXIT (❶) button when the item selection menu is displayed. The on-screen menu disappears and the regular screen appears.

Functions of On-Screen Menus

Item selection menus

1 MENU 1
MENU 1 menu has the following selection items.

Item	Functions
VOLUME	To obtain the desired volume
CONTRAST	To adjust the contrast
BRIGHTNESS	To adjust the brightness
CHROMA	To adjust the color intensity
PHASE	To adjust the phase

2 MENU 2
MENU 2 menu has the following selection items.

Item	Function
COLOR SELECT	To select the color system of the input signal
DISPLAY	To select period of display
LANGUAGE	To select the menu language
USER MEMORY	To store and recall the values and settings adjusted by a user, and recall the factory-settings

Adjustment and setting menu

1a VOLUME menu (Factory setting: 50)

Adjust the speaker volume.
The volume increases by pressing the ↑ button.
The volume decreases by pressing ↓ button.

1b CONTRAST menu (Factory setting: 80)

Adjust the contrast of the screen.
The contrast becomes higher by pressing the ↑ button.
The contrast becomes lower by pressing ↓ button.

Using On-Screen Menus

1c BRIGHTNESS menu (Factory setting: STD)

Adjust the brightness of the screen.
The screen becomes brighter by pressing the ↑ button.
The screen becomes darker by pressing ↓ button.

1d CHROMA menu (Factory setting: STD)

Adjust the color intensity of the video signal.
The color intensity strengthens by pressing the ↑ button.
The color intensity weakens by pressing ↓ button.

Note

The color intensity of an composite video signal or a Y/C separate signal can be corrected on this menu.

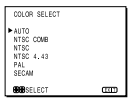
1e PHASE menu (Factory setting: STD)

Adjust the phase of the video signals.
The skin tone becomes greenish by pressing the ↑ button.
The skin tone becomes purplish by pressing the ↓ button.

Note

The phase of an NTSC composite video signal or a Y/C separate signal can be corrected on this menu. The PAL composite video signal or a Y/C separate signal cannot be corrected.

2a COLOR SELECT menu (Factory setting: AUTO)



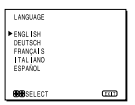
Select the color system of the input signal.
AUTO: Input color systems are automatically selected.
When you input NTSC signal, comb filter will activate. To monitor NTSC signal with trap filter, select NTSC in this menu.

2b DISPLAY menu (Factory setting: SHORT TIME)

Select the period of displaying the color system of the current input signals.
The items have the following functions.

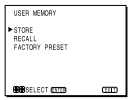
Item	Function
SHORT TIME	To display the kind of color system being used for several seconds on the screen each time you change the signal input.
LONG TIME	To display the kind of color system being used for approximately five minutes on the screen each time you change the signal input.
OFF	Not to display the kind of the color system.

2c LANGUAGE menu (Factory setting: ENGLISH)



Select the menu language among the five languages, English, German, French, Italian and Spanish.

2d USER MEMORY menu

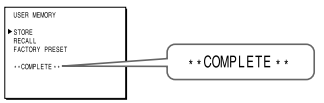


The items have the following functions.

Item	Function
STORE	To store all adjustments and settings currently set on each menu into the internal memory.
RECALL	To recall all adjustments and settings currently stored in the internal memory.
FACTORY PRESET	To reset the adjustments and settings currently set on each menu to the factory settings.[a)]

a) The current settings and adjusted values are reset to the factory settings. The values and settings adjusted and stored in the internal memory by using the STORE menu, however, are not changed. To reset internally stored adjusted values and settings to the factory setting, select FACTORY PRESET, first, then select STORE.

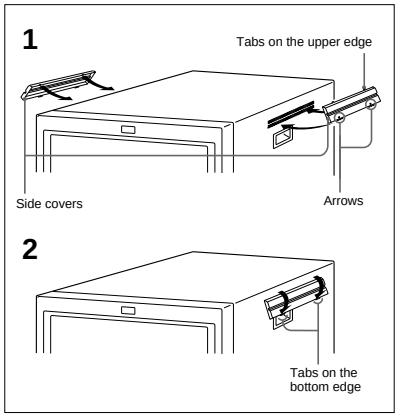
When you press the ENTER (❹) button, the following message is displayed for about two seconds. The currently selected item becomes active when pressing the ENTER (❹) button.



Using the Last Control Function

If you press the ↑ or ↓ button when the menu is not displayed, one of the following menu items that you adjusted last time is displayed.
• VOLUME
• CONTRAST
• BRIGHTNESS
• CHROMA
• PHASE
Then you can adjust the item immediately.

Attaching the Side Covers



In order to protect the ventilation holes from splashes from medicines, etc., attach the supplied side covers as illustrated.

1 Hook the tabs on the upper edge into the ventilation holes, making sure that the arrows on the cover are facing down.

Note

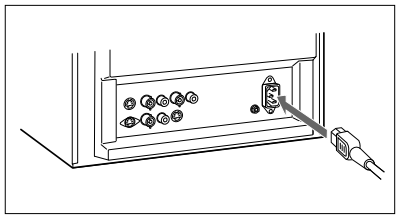
Attach the side covers on all ventilation holes.

2 Push up the tabs on the bottom edge and fit the cover into the lowest ventilation holes.
Attach covers on both left and right vents.

Connections

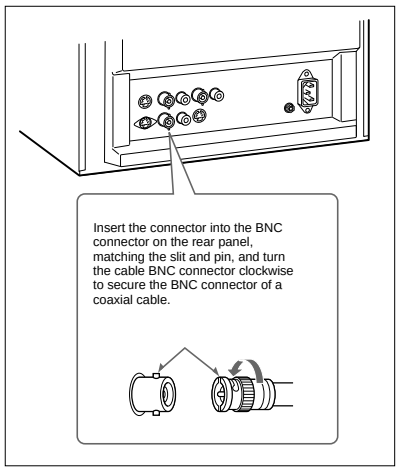
How to Connect the AC Power Cord

Connect the AC power cord (supplied) to the ∿AC IN connector and to a wall outlet.



How to Connect a Cable to a BNC Connector

Connect the coaxial cable with the BNC connectors to the BNC connectors on the rear panel as illustrated below.


Insert the connector into the BNC connector on the rear panel, matching the slit and pin, and turn the cable BNC connector clockwise to secure the BNC connector of a coaxial cable.

Specifications

Video signal

Color system NTSC, PAL, SECAM, NTSC4.43
Horizontal Resolution
500 TV lines
Frequency response
LINE 6 MHz±3dB (Y signal)

Picture performance

Normal scan 7 % over scan of CRT effective screen area
H. linearity Less than 8.0 % (typical)
V. linearity Less than 7.0 % (typical)
Color temperature D65

Inputs

LINE A/B
Y/C IN 4-pin mini-DIN(×2)
See the pin assignment on the next page.
VIDEO IN BNC connector (×2), 1Vp-p +3 dB, –6 dB, sync negative
AUDIO IN Phono jack (×2), –5 dBu[a], more than 47 kilo-ohms

a) 0 dBu = 0.775 Vr.m.s.

Outputs

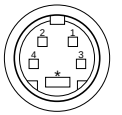
LINE A
Y/C OUT 4-pin mini-DIN (×1) loop-through, Automatic 75 ohms termination
VIDEO OUT
BNC connector (×1) loop-through, Automatic 75 ohms termination
AUDIO OUT
Phono jack (×1) loop-through
Speaker output Output level: 0.8 W

General

Classification of equipment
– Type of protection against electric shock: Class I equipment
* Standard evaluated to:
EN 60 601-1, EN60 601-1-2
CSA C22.2 No.601.1
UL 2601-1
– Degree of protection against harmful ingress of water: Ordinary equipment
– Degree of safety of application in the presence of a flammable anaesthetic mixture: Not protected equipment
– Mode of operation:
Continuous operation
– Information concerning type and frequency of technical maintenance:
Not need maintenance equipment
– Main power switch:
Functional switch
CRT 14-inch CRT with P-22 phosphor
Visible picture size 332 mm (13-inch measured diagonally)
Power consumption
80W
Power requirements
100 to 240 V AC, 50/60 Hz
1.2 - 0.6 A
Operating conditions
Temperature 0 to +40°C
Humidity 30 to 85% (no condensation)
Pressure 700 to 1060 hPa
Transport and Storage conditions
Temperature –10 to +40°C
Humidity 0 to 90%
Pressure 700 to 1060 hPa
Dimensions (w/h/d)
346 × 340 × 414 mm
(13⅝ × 13½ × 16⅜ inches)
Mass Approx. 15 kg (33 lb 1 oz)
Accesory supplied
AC power cord (1)
Side covers (2)
Instructions for Use (1)

Pin assignment

Y/C IN connector (4-pin mini-DIN)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA subcarrier-input	0.286 Vp-p (NTSC), 300m Vp-p (PAL), burst Delay time between Y and C: within 0 ± 100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

Design and specifications are subject to change without notice.

Troubleshooting

This section may help you isolate the problem. Should the problem persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

Symptom	Possible causes and remedies
If colors are not accurately reproduced	The monitor input signal is deviated from the color system specifications (i.e. signals from VCRs). Proceed as follows to correct this phenomenon. **1** Confirm the color system of the input signal. **2** Select the same color system as that of the input signal on the COLOR SELECT menu. If the problem remains unsolved after corresponding color system is selected, briefly turn OFF the power, then turn ON the monitor again.

SONY

3-864-152-11(2)

Trinitron®
Color Video Monitor

Operating Instructions Page 2 — EN

Mode d'emploi Page 14 — F

Bedienungsanleitung Seite 26 — D

Manual de instrucciones Página 38 — E

Istruzioni per l'uso Pagina 50 — I

使用说明书 62 页 — C

Trinitron

SSM-14N5E/14N5U/14N5A
SSM-20N5E/20N5U/20N5A

© 1998 by Sony Corporation

English

Owner's Record

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____
Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

Dangerously high voltage are present inside the unit.
Do not open the cabinet. Refer servicing to qualified personnel only.

In the event of a malfunction or when maintenance is necessary, consult an authorized Sony dealer.

For the customers in the U.S.A.
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - If you are in any doubt consult a qualified electrician.

ATTENTION:
Picture distortion may occur if this monitor is positioned in close proximity to any equipment emitting electromagnetic radiation.

Precaution

On safety

- Operate the unit only with a power source as specified in "Specifications" section.
- The nameplate indicating operating voltage, power consumption, etc., is located on the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
  Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.

If you have any questions about this unit, contact your authorized Sony dealer.

Table of Contents

Features 4
Location and Function of Parts and Controls 5
Front 5
Rear Panel 6
Connections 7
How to Connect the AC Power Cord 7
How to Connect a Cable to a BNC Connector 7
Using On-Screen Menus 8
On-Screen Menu Configuration 8
Operation through On-Screen Menus 9
Functions of On-Screen Menus 10
Troubleshooting 12
Specifications 13

About this manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.

The explanation given in this manual can be applied to the following models unless noted otherwise.
When explanation differs among models, this is clearly indicated in this manual.
- SSM-14N5E/14N5U/14N5A (14-inch monitor)
- SSM-20N5E/20N5U/20N5A (20-inch monitor)

Illustrations of the video monitor are for the SSM-20N5E/20N5U/20N5A.

Features

Picture

Fine pitch Trinitron[1] picture tube
The fine pitch Trinitron tube provides a high resolution picture. Horizontal resolution is more than 500 TV lines at the center of the picture.

Comb filter
When NTSC video signals are received, a comb filter activates to make more accurate Y/C separation. This contributes to less of a decrease in resolution, cross color and cross luminance phenomena.

Beam current feedback circuit
The built-in beam current feedback circuit assures stable white balance.

Four color system available
The monitor can display NTSC, PAL, SECAM, and NTSC$_{4.43}$[2] signals. The appropriate color system is selected automatically.

Input

Y/C input connector
The video signal, split into the chrominance signal (C) and the luminance signal (Y), can be input through this connector, eliminating the interference between the two signals, which tends to occur in a composite video signal, ensuring video quality.

Automatic termination (connector with -⋀⋁- mark only)
The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connector. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

Functions

On-screen menus
You can set monitor operation settings by using the on-screen menus.

EIA standard 19-inch rack mounting
By using an MB-502B mounting bracket (for a 14-inch monitor, not supplied) or SLR-103A slide rail (for a 20-inch monitor, not supplied), the monitor can be mounted in an EIA standard 19-inch rack.

Attention – when the product is installed in a rack:

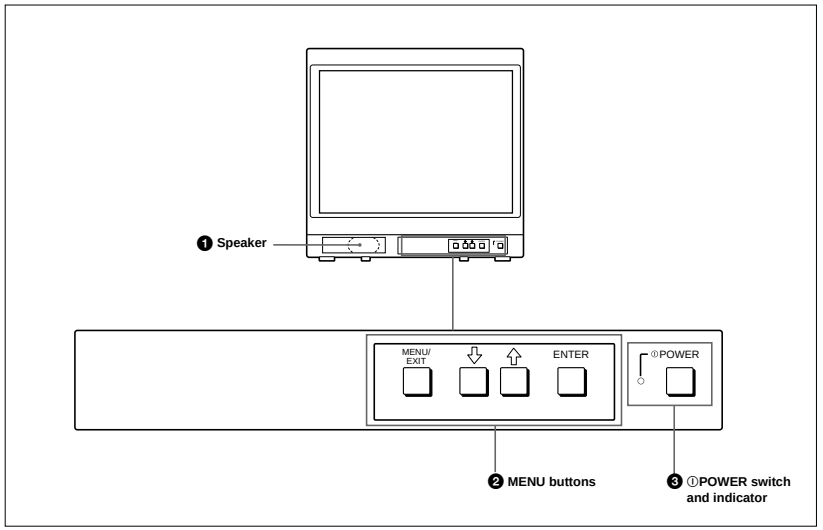
- **Elevated operating ambient temperature**
  If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient.
  Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature of 0 to +35 ºC (Tmra).
- **Reduced air flow**
  Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- **Mechanical loading**
  Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit overloading**
  Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable earthing**
  Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

1) **Trinitron**
"Trinitron" is a registered trademark of Sony Corporation.

2) **NTSC$_{4.43}$**
The NTSC$_{4.43}$ system refers to an NTSC color system in which the subcarrier frequency is modified to 4.43 MHz. When an NTSC recorded video program is played back with a Trident (PAL/SECAM/NTSC$_{4.43}$) VTR, the NTSC$_{4.43}$ signal is output.

Location and Function of Parts and Controls

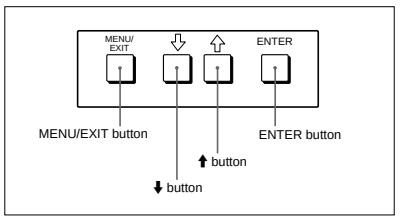
Front



❶ Speaker

❷ MENU buttons
Press to make the menu appear.

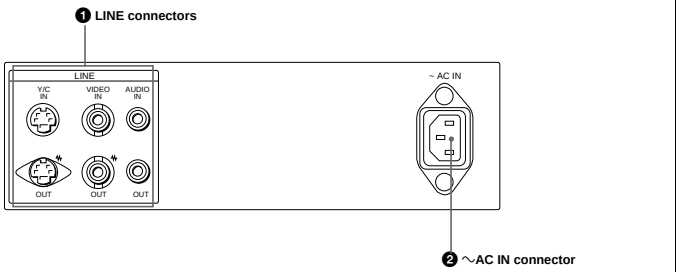
For detailed information on MENU buttons, see "Operation through On-Screen Menus" on page 9.



❸ ⏻POWER switch and indicator
Press to turn the monitor on. The indicator lights in green.
To turn the power off, press this again.

Location and Function of Parts and Controls

Rear Panel



❶ LINE connectors
Input connectors for the composite video, Y/C separate video and audio signals and their loop-through output connectors.

Note

The Y/C IN connector has priority over the VIDEO IN connector.
When connecting the cable to the Y/C IN connector, the Y/C IN connector is automatically selected and the VIDEO IN connector is disconnected even if the cable is connected.

Y/C IN connector (4-pin mini-DIN)
Connect to the Y/C separate output connector of a video camera, VCR or other video equipment.

Y/C OUT connector (4-pin mini-DIN)
Loop-through output of the Y/C IN connector.
Connect to the Y/C separate input connector of a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the Y/C IN connector is output from this connector.

VIDEO IN connector (BNC-type)
Connect to the video output connector of video equipment, such as a VCR or a color video camera.
For a loop-through connection, connect to the video output connector of another monitor.

VIDEO OUT connector (BNC-type)
Loop-through output of the VIDEO IN connector.
Connect to the video input connector for a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

AUDIO IN connector (phono jack)
Connect to the audio output connector of a VCR or other equipment. For a loop-through connection, connect to the audio output of another monitor.

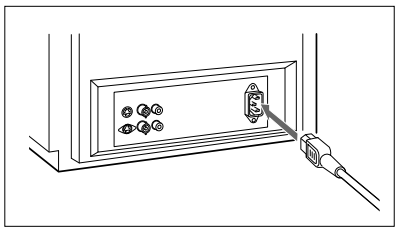
AUDIO OUT connector (phono jack)
Loop-through output of the AUDIO IN connector.
Connect to the audio input connector of a VCR or another monitor.

❷ ~AC IN (inlet) connector
Connect the supplied AC power cord to this connector and to a wall outlet.

Connections

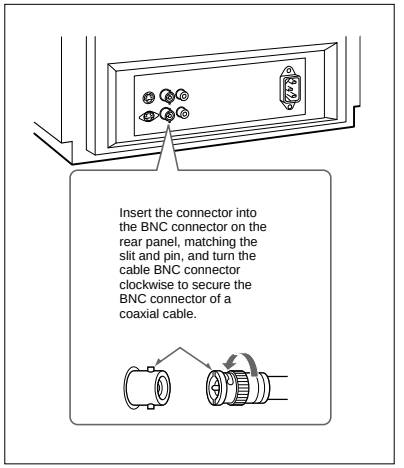
How to Connect the AC Power Cord

Connect the AC power cord (supplied) to the ~AC IN connector and to a wall outlet.



How to Connect a Cable to a BNC Connector

Connect the coaxial cable with the BNC connectors to the BNC connectors on the rear panel as illustrated below.


Insert the connector into the BNC connector on the rear panel, matching the slit and pin, and turn the cable BNC connector clockwise to secure the BNC connector of a coaxial cable.

Using On-Screen Menus

You can make various settings and adjustments of the monitor using the on-screen menus.

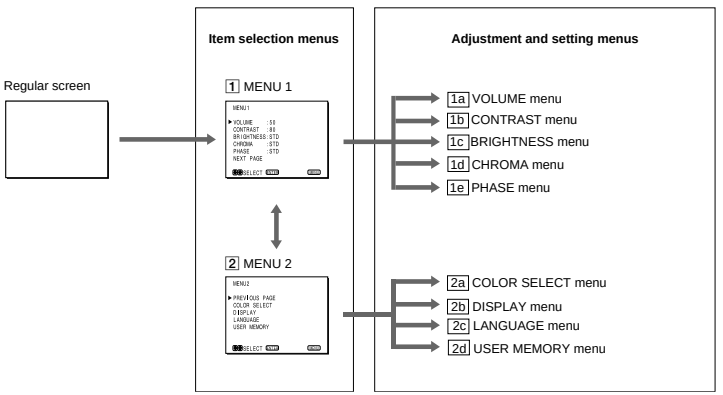
On-Screen Menu Configuration

The on-screen menu is composed of the following two menu types.

Item selection menu
You can select an adjustment and setting item such as sound volume, contrast, brightness, color intensity, color system and menu language by using the ↑,↓ and ENTER buttons.

Adjustment and setting menus
You can make desired adjustment or setting on corresponding menu. The settings and adjustments remain unchanged until next adjustment even if you turn off the power.
To reset the settings and adjustments to the factory-settings, select "FACTORY PRESET" from 2d USER MEMORY menu.

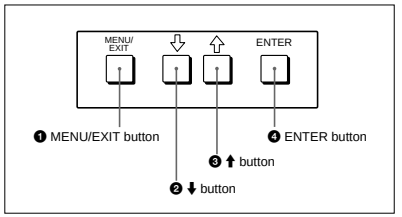
On-screen menu tree-chart



Operation through On-Screen Menus

Menu operation buttons

There are four menu operation buttons on the front panel of the monitor.

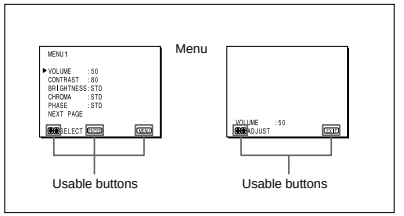


Button functions depend on the displayed menu. The following table shows the button functions on the item selection menus and adjustment and setting menus.

Button	Function on the item selection menus	Function on the adjustment and setting menus
❶ MENU/EXIT	To return to the regular screen.	To return to the item selection menu.
❷ ↓	To move the cursor downward.	To decrease value/ select item.
❸ ↑	To move the cursor upward.	To increase value/ select item.
❹ ENTER	To decide a selected item.	To decide a selected item[a].

a) You can use the ENTER button only on the 2d USER MEMORY menu of the adjustment and setting menus.

Usable buttons depend on the displayed menu. Buttons that can be used on the menu are displayed at the bottom line of the screen. You can perform menu operation using displayed buttons.



Operating procedures

To display the menu, follow this procedure.

1 Press the MENU/EXIT (❶) button.
1 MENU 1 appears.

To select items other than ones not displayed on MENU 1
Select 2 MENU 2 .

For details of how to select, see the "To change the item selection menus" described later.

2 Move the cursor to the desired item by pressing the ↓ or ↑ (❷, ❸) button.

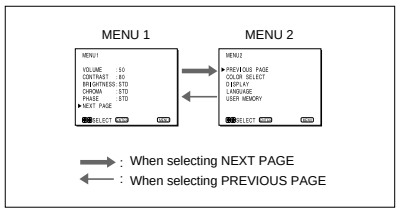
3 Press the ENTER (❹) button.
The adjustment and setting menu selected in step **2** appears.

For detailed information of menus, see "Functions of On-Screen Menus" on page 10.

Using On-Screen Menus

To change the item selection menus

Select NEXT PAGE on the menu to display next item selection menu and PREVIOUS PAGE on the menu to display the previous item selection menu.



How to change the item selection menu

To return to the item selection menu from the adjustment and setting menus

Press the MENU/EXIT (❶) button on the currently displayed adjustment and setting menu.

To close the menu (to return to the regular screen)

Press the MENU/EXIT (❶) button when the item selection menu is displayed. The on-screen menu disappears and the regular screen appears.

Using the Last Control Function

If you press the ↑ or ↓ button when the menu is not displayed, one of the following menu items that you adjusted last time is displayed.

- VOLUME
- CONTRAST
- BRIGHTNESS
- CHROMA
- PHASE

Then you can adjust the item immediately.

Functions of On-Screen Menus

Item selection menus

1 MENU 1

MENU 1 menu has the following selection items.

Item	Functions
VOLUME	To obtain the desired volume
CONTRAST	To adjust the contrast
BRIGHTNESS	To adjust the brightness
CHROMA	To adjust the color intensity
PHASE	To adjust the phase

2 MENU 2

MENU 2 menu has the following selection items.

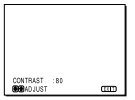
Item	Function
COLOR SELECT	To select the color system of the input signal
DISPLAY	To select period of display
LANGUAGE	To select the menu language
USER MEMORY	To store and recall the values and settings adjusted by a user, and recall the factory-settings

Adjustment and setting menu

1a VOLUME menu (Factory setting: 50)

Adjust the speaker volume.
The volume increases by pressing the ↑ button.
The volume decreases by pressing ↓ button.

1b CONTRAST menu (Factory setting: 80)



Adjust the contrast of the screen.
The contrast becomes higher by pressing the ↑ button.
The contrast becomes lower by pressing ↓ button.

1c BRIGHTNESS menu (Factory setting: STD)

Adjust the brightness of the screen.
The screen becomes brighter by pressing the ↑ button.
The screen becomes darker by pressing ↓ button.

1d CHROMA menu (Factory setting: STD)

Adjust the color intensity of the video signal.
The color intensity strengthens by pressing the ↑ button.
The color intensity weakens by pressing ↓ button.

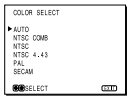
1e PHASE menu (Factory setting: STD)

Adjust the phase of the video signals.
The skin tone becomes greenish by pressing the ↑ button.
The skin tone becomes purplish by pressing the ↓ button.

Note

The phase of an NTSC composite video signal or a Y/C separate signal can be corrected on this menu. The PAL composite video signal or a Y/C separate signal cannot be corrected.

2a COLOR SELECT menu (Factory setting: AUTO)



Select the color system of the input signal.
AUTO: Input color systems are automatically selected. When you input NTSC signal, comb filter will activate. To monitor NTSC signal with trap filter, select NTSC in this menu.
The factory setting of the COLOR SELECT menu depends on destination.
SSM-14N5U/20N5U: NTSC
SSM-14N5E/20N5E/14N5A/20N5A: PAL

2b DISPLAY menu (Factory setting: SHORT TIME)

Select the period of displaying the color system of the current input signals.
The items have the following functions.

Item	Function
SHORT TIME	To display the kind of color system being used for several seconds on the screen each time you change the signal input.
LONG TIME	To display the kind of color system being used for approximately five minutes on the screen each time you change the signal input.
OFF	Not to display the kind of the color system.

2c LANGUAGE menu (Factory setting: ENGLISH)

Select the menu language among the five languages, English, German, French, Italian and Spanish.

Using On-Screen Menus

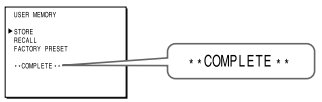
2d USER MEMORY menu

The items have the following functions.

Item	Function
STORE	To store all adjustments and settings currently set on each menu into the internal memory.
RECALL	To recall all adjustments and settings currently stored in the internal memory.
FACTORY PRESET	To reset the adjustments and settings currently set on each menu to the factory settings.[a]

a) The current settings and adjusted values are reset to the factory settings. The values and settings adjusted and stored in the internal memory by using the STORE menu, however, are not changed. To reset internally stored adjusted values and settings to the factory setting, select FACTORY PRESET, first, then select STORE. The color system of the input signal is reset to AUTO even though the factory setting on the COLOR SELECT menu is NTSC or PAL.

When you press the ENTER (❹) button, the following message is displayed for about two seconds. The currently selected item becomes active when pressing the ENTER (❹) button.



Troubleshooting

This section may help you isolate the problem. Should the problem persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

Symptom	Possible causes and remedies
If the picture is unstable, when the input signal from a security camera is switched	Select NTSC on the COLOR SELECT menu when the NTSC signal is input. Select PAL when the PAL signal is input.

Specifications

Video signal

Color system NTSC, PAL, SECAM, NTSC4.43
Resolution 500 TV lines
Frequency response
LINE 6 MHz±3dB (Y signal)

Picture performance

Normal scan 7 % over scan of CRT effective screen area
H. linearity Less than 8.0 % (typical)
V. linearity Less than 7.0 % (typical)
Color temperature D65

Inputs

LINE
Y/C IN 4-pin mini-DIN(×1)
See the pin assignment on this page.
VIDEO IN BNC connector (×1), 1Vp-p +3 dB, –6 dB, sync negative
AUDIO IN Phono jack (×1), –5 dBu[a], more than 47 kilo-ohms

a) 0 dBu = 0.775 Vr.m.s.

Outputs

LINE
Y/C OUT 4-pin mini-DIN (×1) loop-through, Automatic 75 ohms termination
VIDEO OUT
BNC connector (×1) loop-through, Automatic 75 ohms termination
AUDIO OUT
Phono jack (×1) loop-through
Speaker output Output level: 0.8 W

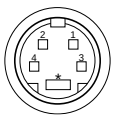
General

CRT SSM-14N5E/14N5U/14N5A:
14-inch CRT with P-22 phosphor
visible picture size 340 mm
(13-inch measured diagonally)
SSM-20N5E/20N5U/20N5A:
20-inch CRT with P-22 phosphor
visible picture size 490 mm
(19-inch measured diagonally)
Power consumption
SSM-14N5E/14N5U/14N5A: 80W
SSM-20N5U: 100 W
SSM-20N5E/20N5A: 105W
Power requirements
100 to 240 V AC, 50/60Hz
"For use of SSM-14N5U/20N5U", operate these monitors on 120 V AC.
Operating conditions
Temperature 0 to +35°C
Humidity 0 to 90% (no condensation)
Transport and Storage conditions
Temperature –10 to +40°C
Humidity 0 to 90%
Dimensions (w/h/d)
SSM-14N5E/14N5U/14N5A:
346 × 340 × 414 mm
(13⅝ × 13½ × 16⅜ inches)
SSM-20N5E/20N5U/20N5A:
449 × 441 × 502 mm
(17¾ × 17⅜ × 19⅞ inches)
Mass SSM-14N5E/14N5U/14N5A:
Approx. 15 kg (33 lb 1 oz)
SSM-20N5E/20N5U/20N5A:
Approx. 28 kg (61 lb 12 oz)
Accesory supplied AC power cord (1)
Operating Instructions (1)

5

Pin assignment

Y/C IN connector (4-pin mini-DIN)

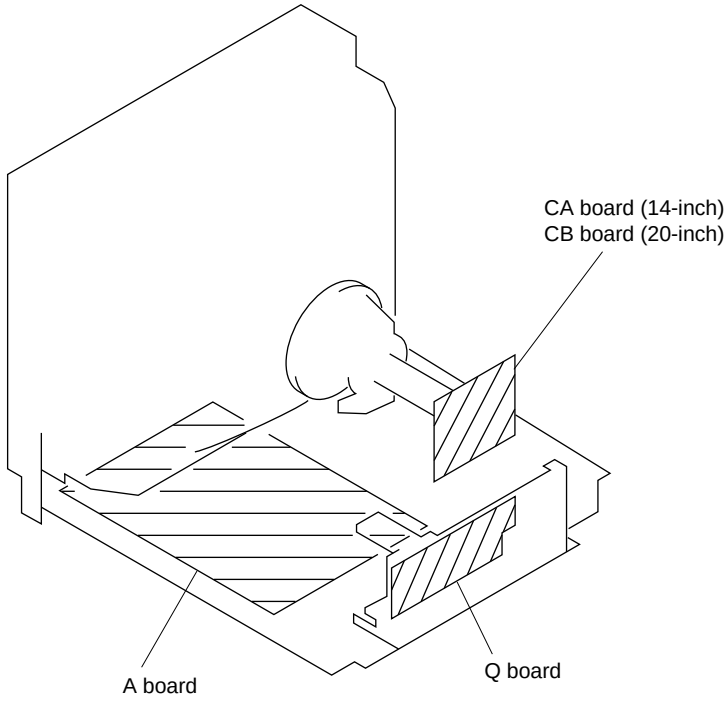


Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA subcarrier-input	0.286 Vp-p (NTSC), 300m Vp-p (PAL), burst Delay time between Y and C: within 0 ± 100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

Design and specifications are subject to change without notice.

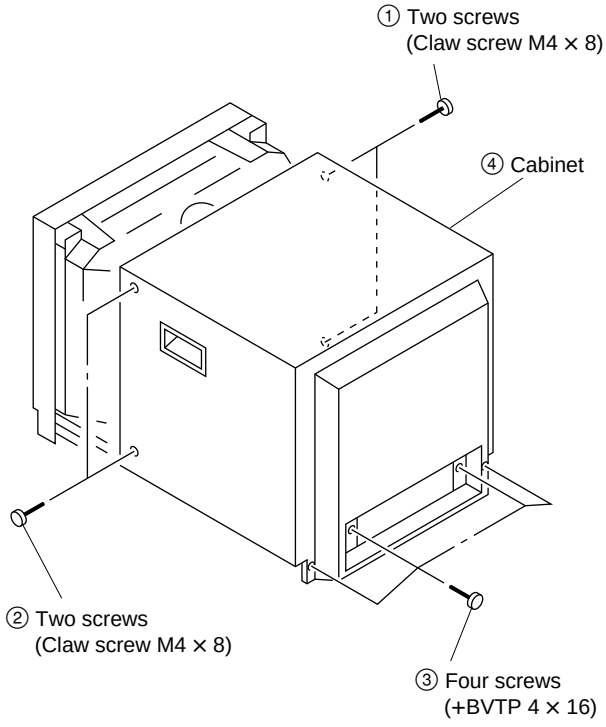
SECTION 2
SERVICE INFORMATION

2-1. CIRCUIT BOARDS LOCATION

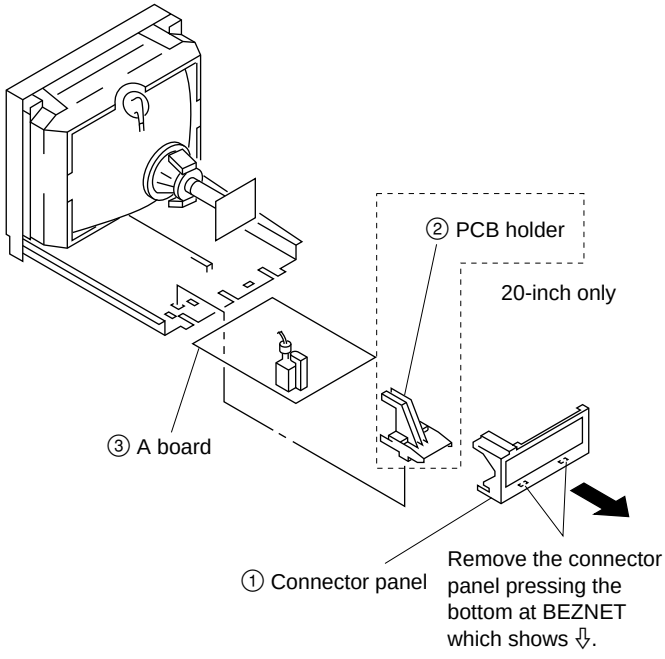


2-2. DISASSEMBLY

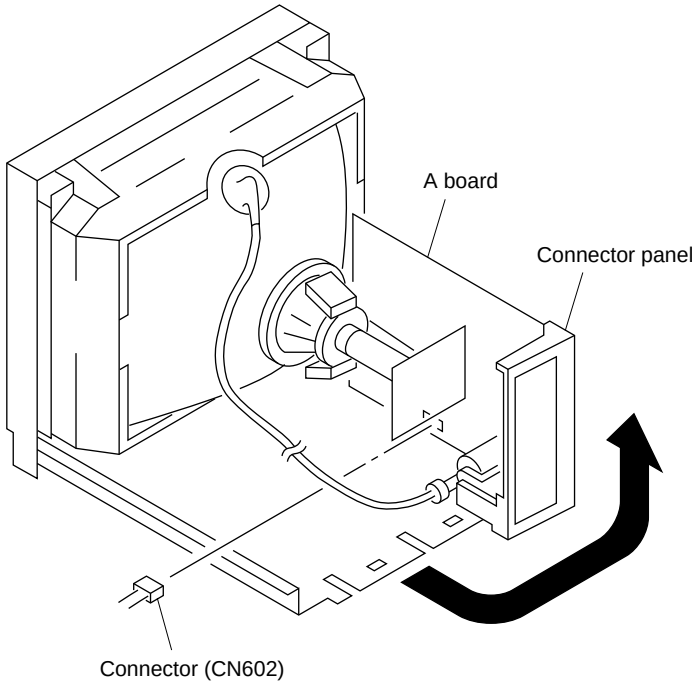
2-2-1. Cabinet Removal



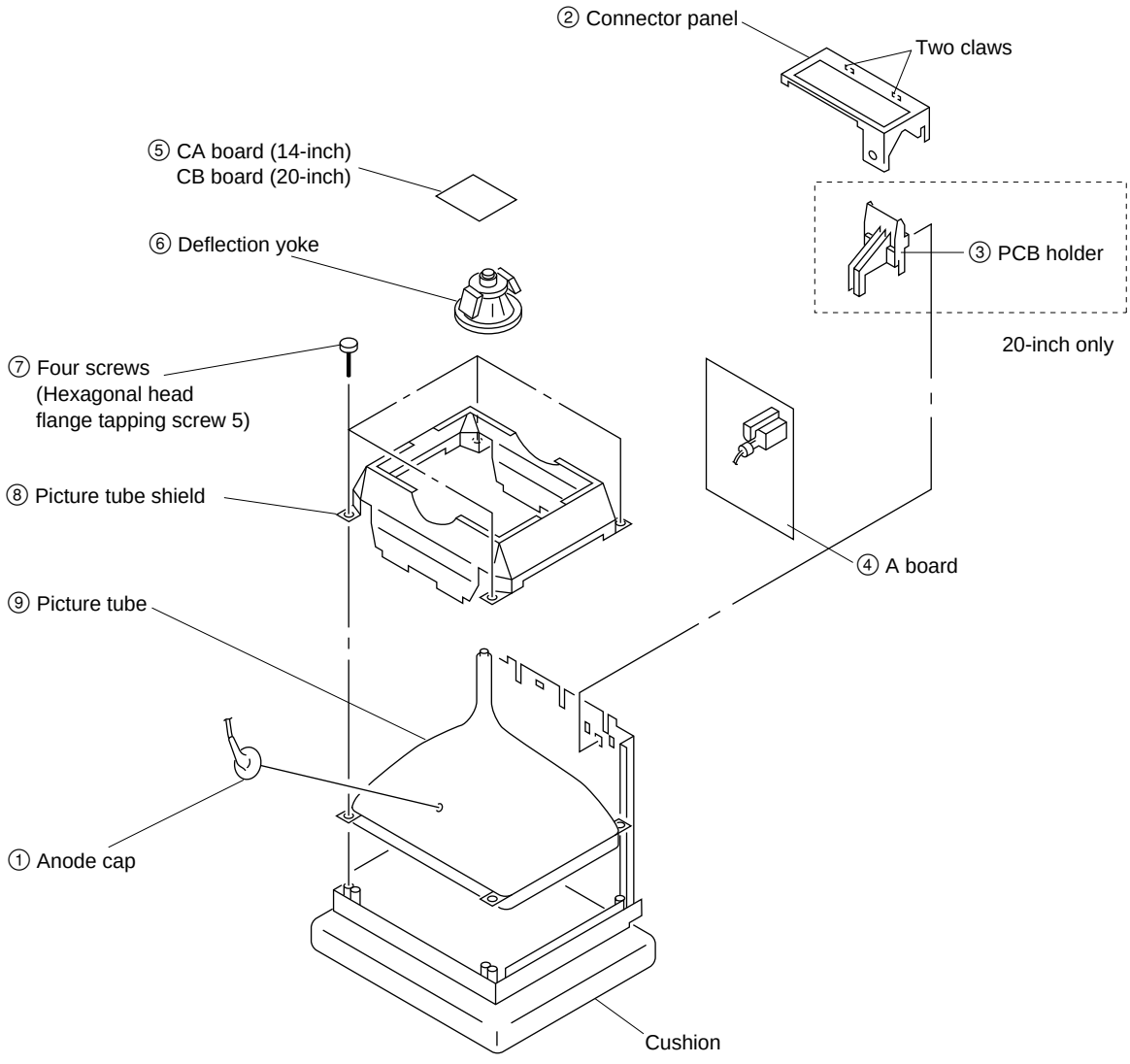
2-2-2. A Board Removal


② PCB holder
20-inch only
③ A board
① Connector panel
Remove the connector panel pressing the bottom at BEZNET which shows ⇩.

2-2-3. Service Position



2-2-4. Picture Tube Removal

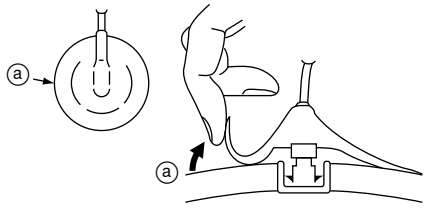


2-2-5. Removal of Anode-cap

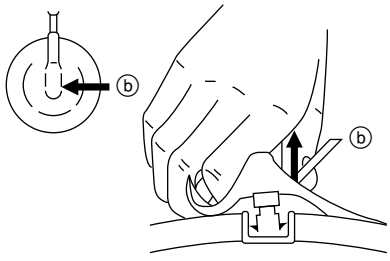
Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, picture tube shield or carbon painted on the picture tube, after removing the anode.

1. Removing Procedures

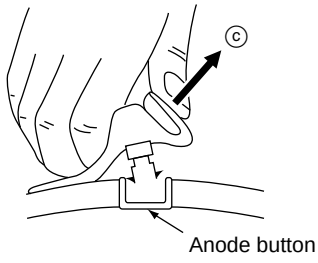
(1) Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



(2) Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



(3) When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

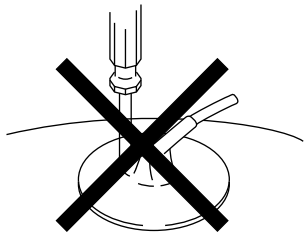


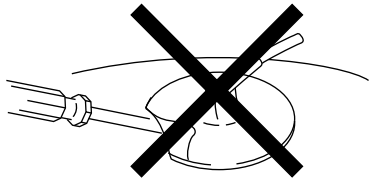
2. Handling Precautions

(1) Don't hurt the surface of anode-caps with sharp shaped material!

(2) Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

(3) Don't turn the foot of rubber over hardly!
The shatter-hook termianl will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

3-1. PREPARATIONS (1)

Tools required

- Oscilloscope
- Digital multimeter
- Degausser
- Video signal generator
- Variable AC power supply (or NF power supply)
- DC power supply
- Ammeter

Note: Perform the following adjustments 5 minutes after turning on the power.

Service Mode

This unit is provided with a service switch on the front panel for various servicing adjustments. The following describes how to use the switch.

1. Setting the Service Mode

With no menus displayed, press the [ENTER] and [MENU] keys simultaneously. When Ver✻✻✻ is displayed on the screen, press the [ENTER] key twice.

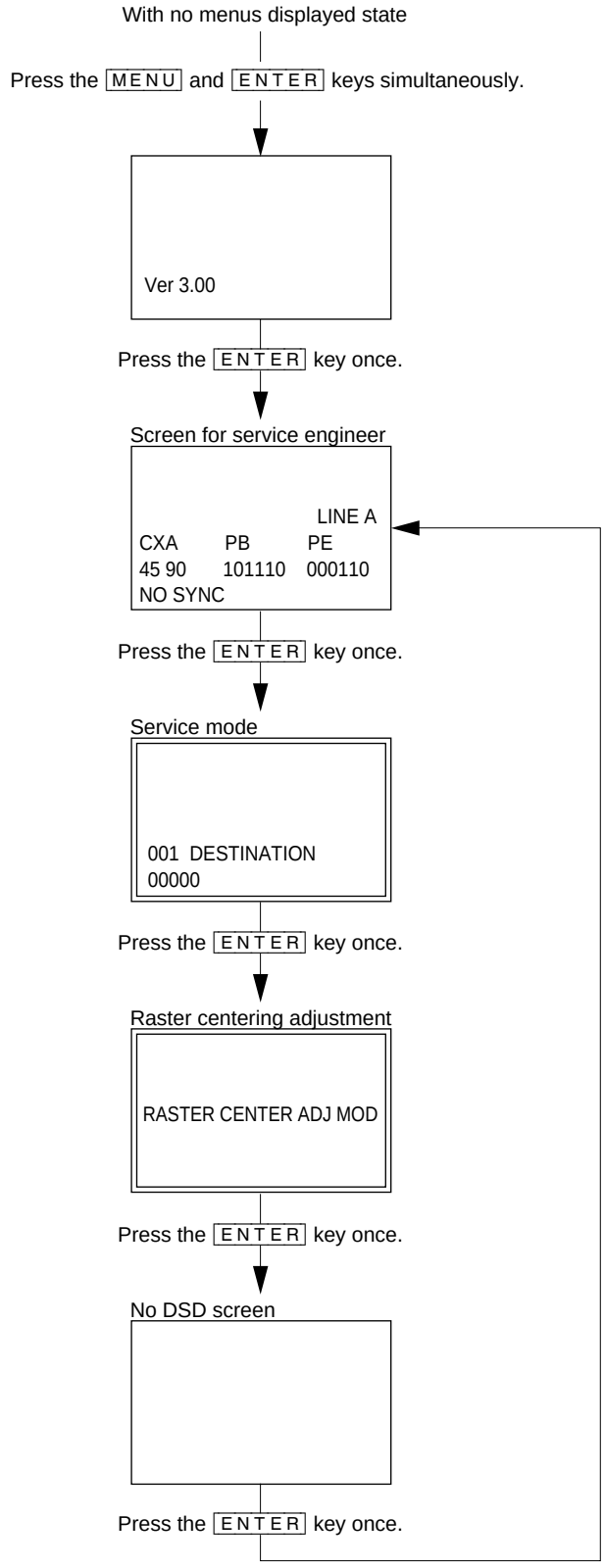
2. Displaying the Service Mode

(4)	
(1)	(2)
(3)	

Range of Service Mode Displays

(1) Serial number from “0 to 102” given to each service item.
(2) Name of service item.
(3) Adjustment data of the service item memorized in the RAM currently. Changing this value enables adjustments. Take note that if the adjustment values are not saved in the EPROM, they will be lost when the power is turned off or when the input is switched.
(4) Guidance on saving.

Service Mode Screens



Note: Use the double solid lined screens (▭) when servicing.

3. Exiting the Service Mode

To exit the service mode, switch to the raster center adjustment mode, and press the [ENTER] and [MENU] keys simultaneously.

4. Moving to the Desired Service Item

To go back to a previous service item, use the [MENU] + [↑] keys. To forward to a service item in front, use the [MENU] + [↓] keys. Pressing these keys continuously will move the cursor continuously.

5. Changing the Service Data

The adjustment data increases when the [↑] key is pressed and decreases when the [↓] key is pressed. Pressing these keys continuously will increase or decrease the value continuously.

6. Writing the Service Data

To write the data from the RAM to the EEPROM, press the [MENU] and [ENTER] keys once, check that SAVE is displayed at Guidance, and then press the [MENU] and [ENTER] keys again. Take note that when SAVE≥≥ is displayed at Guidance, the items displayed as well as all data will be written.

7. Setting the Raster Centering Adjustment Mode

Press the [ENTER] key another time in the service mode.

Service Items of EEPROM Data

No.	String	Default Data	
		14-inch	20-inch
1	DESTINATION	U/C: 1 AEP: 2 AUS: 3	U/C: 1 AEP: 2 AUS: 3
2	SHARP LEVEL	4	4
3	SHARP F0	1	1
4	PRE/OVER SHOOT	0	0
5	Y DLY NTSC COMB	4	4
6	Y DLY NTSC CVBS	4	4
7	Y DLY NTSC Y/C	4	4
8	Y DLY NT443 CVBS	4	4
9	Y DLY NT443 Y/C	4	4
10	Y DLY PAL CVBS	4	4
11	Y DLY PAL Y/C	4	4
12	Y DLY SECAM CVBS	4	4
13	Y DLY SECAM Y/C	4	4
14	Y DLY PAL-M CVBS	4	4
15	Y DLY PAL-M Y/C	4	4
16	CHROMA CENT	31	31
17	PH CENT NTSC COMB	33	33
18	PH CENT NTSC CVBS	31	31
19	PH CENT NTSC Y/C	31	31
20	PH CENT NT443CVBS	33	33
21	PH CENT NT443 Y/C	35	35
22	C BPF NTSC COMB	1	1
23	C BPF NTSC CVBS	1	1
24	C BPF NTSC Y/C	0	0
25	C BPF NT443 CVBS	1	1
26	C BPF NT443 Y/C	0	0
27	C BPF PAL CVBS	1	1
28	C BPF PAL Y/C	0	0
29	C BPF SECAM CVBS	1	1
30	C BPF SECAM Y/C	0	0
31	C BPF PAL-M CVBS	1	1
32	C BPF PAL-M Y/C	0	0
33	SUB BRT CVBS	33	33
34	SUB BRT RGB	33	33
35	SECAM ID START	1	1
36	SECAM ID STOP	2	2
37	*SECAM BELL F0	33	33
38	SECAM ID LEVEL	3	3
39	C/O R ROUGH	3	3
40	C/O G ROUGH	3	3

No.	String	Default Data	
		14-inch	20-inch
41	C/O B ROUGH	3	3
42	*C/O OFFSET CVBS	28	49
43	*C/O R FINE CVBS	26	21
44	*C/O G FINE CVBS	31	31
45	*C/O B FINE CVBS	31	29
46	*DRV ALL CVBS	No. 47, 48 and 49 are displayed.	
47	*DRV R CVBS	42	31
48	*DRV G CVBS	36	23
49	*DRV B CVBS	19	11
50	*C/O OFFSET SECAM	29	50
51	*C/O R FINE SECAM	11	11
52	*C/O G FINE SECAM	31	31
53	*C/O B FINE SECAM	24	23
54	*DRV ALL SECAM	No. 55, 56 and 57 are displayed.	
55	*DRV R SECAM	41	31
56	*DRV G SECAM	36	23
57	*DRV B SECAM	19	11
58	*C/O OFFSET RGB	40	49
59	*C/O R FINE RGB	30	29
60	*C/O G FINE RGB	31	31
61	*C/O B FINE RGB	33	32
62	*DRV ALL RGB	No. 63, 64 and 65 are displayed.	
63	*DRV R RGB	44	39
64	*DRV G RGB	38	33
65	*DRV B RGB	19	15
66	H OSC F0	7	7
67	H MASK	1	1
68	H SYNC SEP	0	0
69	V SYNC SEP	0	0
70	V COUNTDOWN MODE	1	1
71	*H CENT 60HZ CVBS	11	14
72	*H CENT 60HZ RGB	10	12
73	*H CENT 50HZ CVBS	18	21
74	*H CENT 50HZ RGB	13	15
75	*H CENT NTSC COMB	12	14
76	H BLK RGB	0	0
77	H BLK CVBS	1	1
78	H BLK L 60 CVBS	15	15
79	H BLK R 60 CVBS	0	0
80	H BLK L 60 RGB	15	15
81	H BLK R 60 RGB	0	0
82	H BLK L 50 CVBS	15	15
83	H BLK R 50 CVBS	0	0
84	H BLK L 50 RGB	15	15
85	H BLK R 50 RGB	0	0
86	*BOW	7	7
87	*ANGLE	7	7
88	*V CENTER	32	31
89	*V SIZE	22	23
90	*V SIZE 16 : 9	63	63
91	*VS-CORRECTION	3	5
92	*V LINEARITY	7	6
93	V LIN UPPER	0	0
94	V LIN LOWER	0	0
95	*H SIZE	21	18
96	*H PIN PHASE	5	6
97	*H PIN AMP	27	23
98	*H CORNER PIN	31	34
99	EHT	8	8
100	SEC F0 TIME	0	0
101	SEC F0 DELTA	0	0
102	SEC F0 DELAY	0	0

- The data of signals marked "*" can be changed freely.
- The data of signals without "*" marked is fixed.

3-2. PREPARATIONS (2)

- Set the video signal generator as follows, and input the composite video signal.

Signal		Signal Contents	Standard Level P-W
COMPOSITE VIDEO	NTSC 3.58 NTSC 4.43	100 % WHITE	0.714 V
		75 % WHITE	0.536 V
		BURST (GREEN)	286 mV p-p (632 mV p-p)
	PAL SECAM	100 % WHITE	0.7 V
		75 % WHITE	0.525 V
		PAL BURST (GREEN)	300 mV p-p (664 mV p-p)

- [ ] shows the name of the adjustment items of the service mode.
  Example [H SIZE]

- If adjustments are performed in the service mode, save the service data before turning off the power. Turning off the power before saving the data will cause all adjusted data to be lost.

- Standard inspection state
  Unless specified otherwise, set the video signal generator to the following conditions and perform the adjustments and inspections.

VOLUME	50
CONTRAST	80
BRIGHTNESS	STD
CHROMA	STD
PHASE	STD
ASPECT RATIO	4 : 3

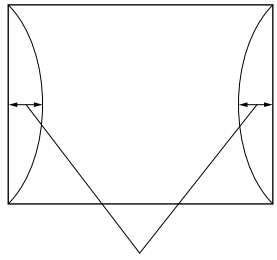
3-3. OUTPUTTING IMAGES

Setting the AC Input Voltage

(1) Input the video signals and audio signals into each terminal of the connector panel.
(2) Set the voltage of the variable AC power supply to AC100 ±3 V (distortion factor: 3 % or less).

3-4. RASTER CENTERING ADJUSTMENT

(1) Set the raster center adjustment mode.
Set the service mode according to “Setting the Service Mode”, and press the [ENTER] key once to enter the raster center adjustment mode.
(2) Adjust S501 on the A board so that the raster comes to the horizontal direction center.



Adjust S501 so that the raster comes to the horizontal center.

3-5. LANDING ADJUSTMENT

1. Preparations

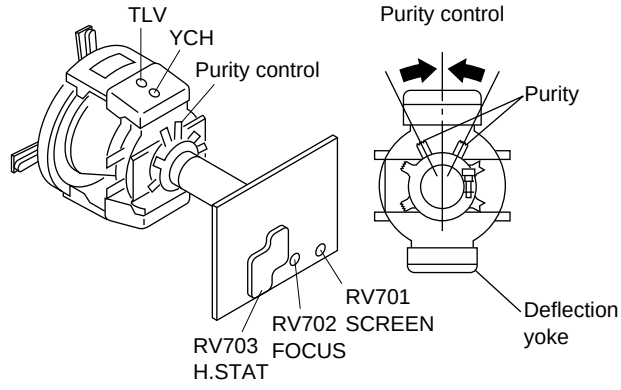
(1) To reduce geomagnetism effects, face the CRT screen of this to the east or west.
(2) Loosen the fixture of the deflection yoke, and push back the deflection yoke.
(3) Turn on the power switch, and degauss with the degausser.
(4) Adjust the tilt of the deflection yoke.

2. Adjustment

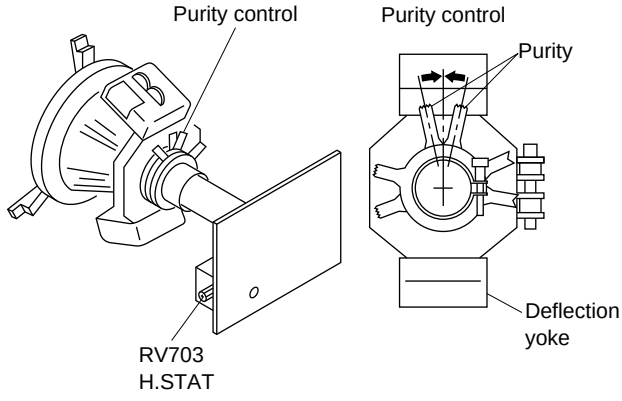
Note: The white balance, G2, and convergence need to be roughly adjusted beforehand.

(1) Set CONTRAST to MAX.
Set BRIGHTNESS to a position which gives a clear view.
(2) Set the video signal generator to G (green) only.
(3) Adjust the purity knob so that G (green) comes to the center of the screen and the R and B widths become more or less the same. (Refer to Fig. 1.)
(4) Switch the video signal generator to B (blue) only, R (red) only, and G (green) only, check that each color is at the center of the screen. (Refer to Fig. 3, 6, and 9)
(5) Bring the deflection yoke forward gradually and adjust it so that the R and B at the both sides of the screen becomes green. (Refer to Fig. 2 and Fig. 3.)
(6) Moving the deflection yoke forward too much will result in the pattern shown in Fig. 4. In such cases, push back the deflection yoke. (Refer to Fig. 4 and Fig. 3.)
(7) Switch the video signal generator to B (blue) only, and check the pattern. (Refer to Fig. 6.)
(8) Switch the video signal generator to R (red) only, and check the pattern. (Refer to Fig. 9.)
(9) If the landing cannot be obtained in the corners, paste the magnet and perform adjustment.
(10) Switch to the all white signal and check the uniformity.
(11) After setting the position of the deflection yoke, secure it with fixture.

14-inch



20-inch



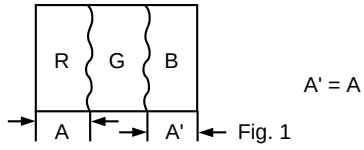


Fig. 1

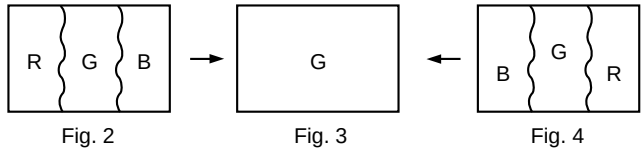


Fig. 2

Fig. 3

Fig. 4

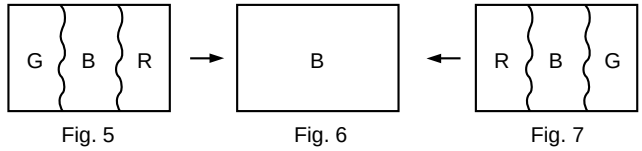


Fig. 5

Fig. 6

Fig. 7

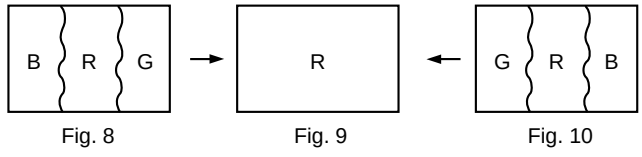


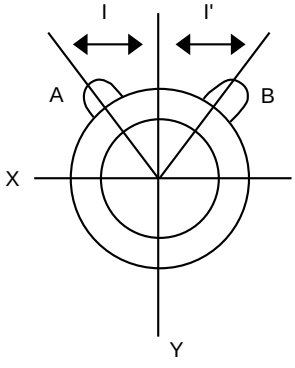
Fig. 8

Fig. 9

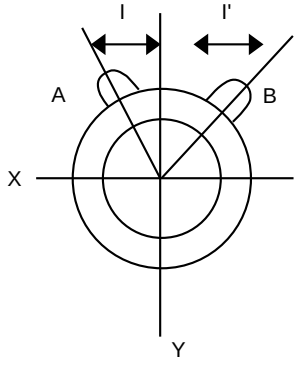
Fig. 10

3-6. CONVERGENCE ADJUSTMENT

1. Input the dot pattern signal.
   Set CONTRAST to the position at which it can be seen clearly.
   Set BRIGHTNESS to MIN.
2. Align the R, G, B dots in the horizontal direction at the center of the screen using RV703 (H-STAT).
   Note: If H-CENT was changed after adjusting H-STAT, adjust H-STAT again. (The H-STAT can be changed by the H-CENT switch.)
3. Align the top and bottom of R, G, B at the center of the screen using the V-STAT (vertical static convergence) magnets.
   Note: After the V-STAT adjustment, always paint the magnets to lock.



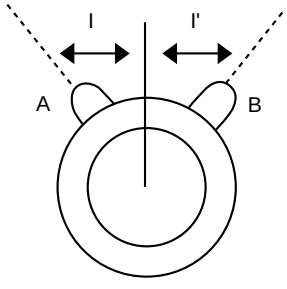
Good example



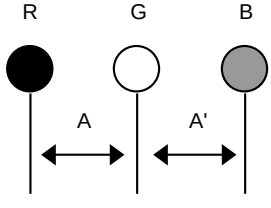
Bad example

While maintaining the V-STAT magnet knobs A and B at the same angle (I = I'), adjust the top and bottom convergences. If A and B are asymmetrical (I = I'), it will have a negative effect; the focus may not be accurate, or the beam striking may occur.

4. For HMC, use a 6-pole magnet and adjust so that the R and B dots are symmetrical at the left and right sides in respect to the G dot.

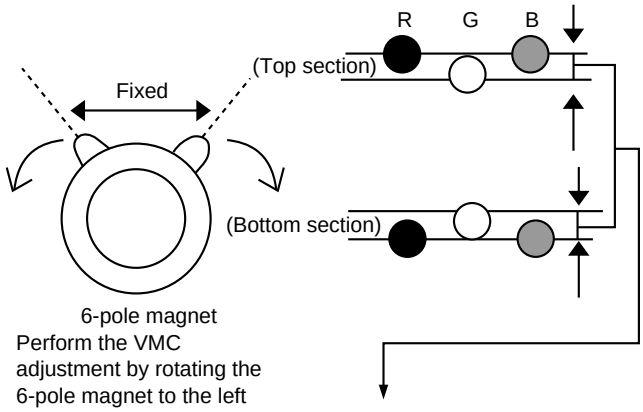


6-pole magnet
Perform the HMC adjustment by changing the opening of the 6-pole magnet.



Adjust the 6-pole magnet so that A = A'. While maintaining the I and I' angles equal, adjust the 6-pole magnet.

5. For VMC, use a 6-pole magnet to adjust so that the R and B dots are symmetrical above and below the G dot.

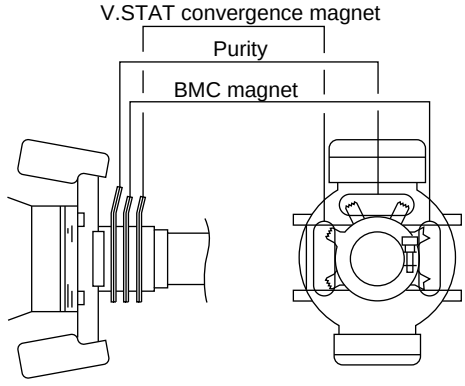


6-pole magnet
Perform the VMC adjustment by rotating the 6-pole magnet to the left and right without changing the opening of it.

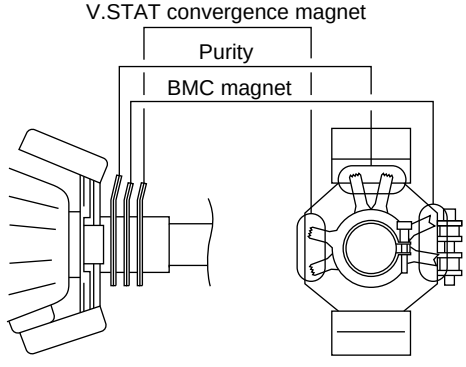
Adjust so that the displacement of the dot is equal at the top and bottom.

6. Repeat steps 2 to 5 until the convergence becomes correct.
   Note: Adjusting the convergence may affect the landing. Therefore be sure to check the landing again after completing this adjustment.
7. After adjusting, paint each magnet to lock them.

14-inch



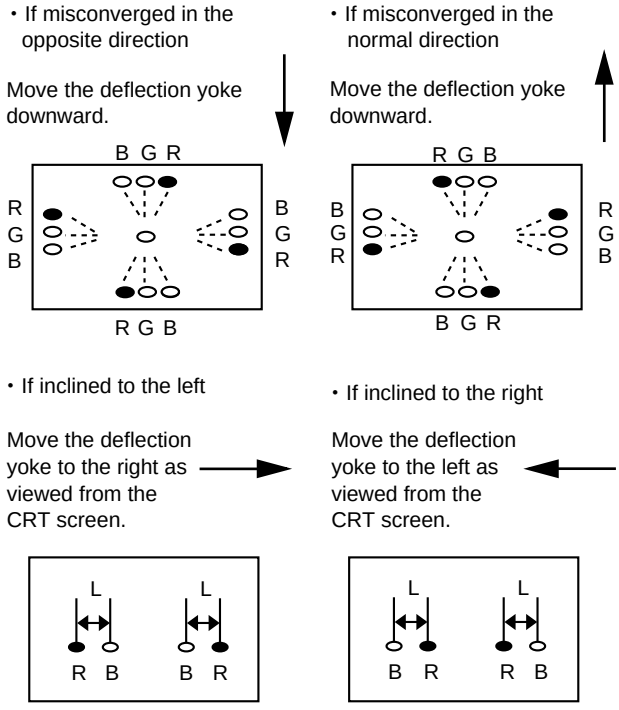
20-inch



3-7. INCLINATION OF DEFLECTION YOKE ADJUSTMENT

If there is misconvergence at both sides of the X or Y axis of the CRT screen, incline the deflection yoke in the arrow direction to reduce the misconvergence for the entire CRT screen to satisfy the tolerance specified.

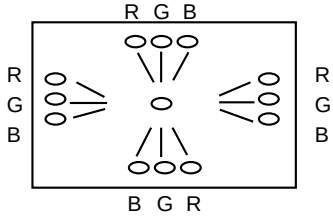
1. Adjustment


• If misconverged in the opposite direction
Move the deflection yoke downward.
B G R
R G B
B G R
R G B
• If misconverged in the normal direction
Move the deflection yoke downward.
R G B
B G R
B G R
R G B
• If inclined to the left
Move the deflection yoke to the right as viewed from the CRT screen.
L L
R B B R
• If inclined to the right
Move the deflection yoke to the left as viewed from the CRT screen.
L L
B R R B

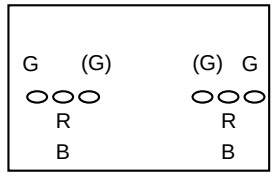
2. Insert the wedges into the DY and CRT funnel face to fix the deflection yoke. The number and position of the wedges are shown in the figure below.

Position of the 14-inch wedge Position of the 20-inch wedge

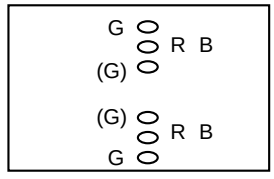
3. The pattern below cannot be corrected by adjusting the inclination of the deflection yoke.



Gun rotation
Beam is twisted at both sides of the X and Y axes respectively.



HCR large (small)
The G raster vertical component is wider (or narrower) at both sides of the screen than those of the R and B rasters.



VCR large (small)
The G raster vertical component is wider (or narrower) at both sides of the screen than those of the R and B rasters.

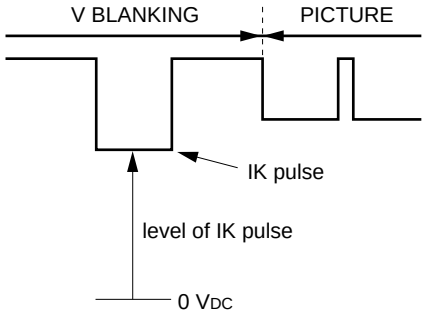
3-8. G2 ADJUSTMENT

1. Receive the 525 or 625 monoscope signal.
2. Set as follows in the service mode.

No.	Item	Data	
		PVM-14N5U/14N6U 14N5E/14N6E 14N5A/14N6A 14N5MDE SSM-14N5U 14N5A 14N5E	PVM-20N5U/20N6U 20N5E/20N6E 20N5A/20N6A SSM-20N5U 20N5E 20N5A
33	SUB BRT CVBS	31	
40	C/O G ROUGH	3	7
42	C/O OFFSET CVBS	31	
44	C/O G FINE CVBS	31	

Data Setting by Service Mode

3. Connect the probe of the oscilloscope to the Q714 collector.
4. Adjust the Q714 collector IK pulse level to the following voltage using RV701 (G2).
   20-inch (RV701/CB board): G cathode = 149 ± 1 V
   14-inch (RV701/CA board): G cathode = 136 ± 1 V



3-9. WHITE BALANCE ADJUSTMENTS

3-9-1. VIDEO (Except SECAM) Adjustment

1. Select the LINE A input.
   Set the monitor to the levels in the following table in the service mode.

No.	Item	Data	
		PVM-14N5U/14N6U 14N5E/14N6E 14N5A/14N6A 14N5MDE SSM-14N5U 14N5A 14N5E	PVM-20N5U/20N6U 20N5E/20N6E 20N5A/20N6A SSM-20N5U 20N5E 20N5A
33	SUB BRT CVBS	31	
34	SUB BRT RGB	31	
39	C/O R ROUGH	3	7
40	C/O G ROUGH	3	7
41	C/O B ROUGH	3	7
45	C/O B FINE CVBS	31	
52	C/O G FINE RGB	31	

Data Setting by Service Mode

2. Input the all gray signal (Fig. 1) into LINE A.
3. Adjust the luminance to 3 ±0.2 nit using 42 C/O OFFSET CVBS.
4. Adjust the white balance to the color temperature shown in Table 1 using 43 C/O R FINE CVBS and 45 C/O B FINE CVBS.
5. Repeat steps 3 and 4 so that the luminance and white balance become the specifications shown in Table 1.
6. Input the window signal (Fig. 2) into LINE A.
7. Adjust the luminance to 150 ±1 nit using 46 DRV ALL CVBS.
8. Adjust the white balance to the color temperature shown in Table 1 using 47 DRV R CVBS and 49 DRV B CVBS.
9. Repeat steps 7 and 8 so that the luminance and white balance become the specifications shown in Table 1.
10. The cutoff varies by changing the drives. Therefore, repeat steps 3 to 9 until the luminance and color temperature of the arive and cutoff meet the specification.
11. Repeat steps 2 and 10 so that the luminance and white balance of the cutoff side (Fig. 1) and drive side (Fig. 2) become the specifications shown in Table 1.
12. Save the data.

11. Copy the data of the items adjusted in steps 1 to 10 to the service items for adjusting the SECAM white balance.

42	C/O OFFSET CVBS	- Copied to → 50	C/O OFFSET SECAM
43	C/O R FINE CVBS	- Copied to → 51	C/O R FINE SECAM
44	C/O G FINE CVBS	- Copied to → 52	C/O G FINE SECAM
45	C/O B FINE CVBS	- Copied to → 53	C/O B FINE SECAM
47	DRV R CVBS	- Copied to → 55	DRV R SECAM
48	DRV G CVBS	- Copied to → 56	DRV G SECAM
49	DRV B CVBS	- Copied to → 57	DRV B SECAM

12. Save the adjustment data.

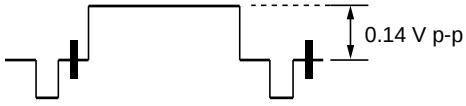


Fig. 1. NTSC All Gray Signal (With Burst)

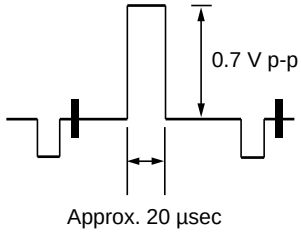


Fig. 2. NTSC Window Signal (With Burst)

Color Temperature	Adjustment Error
D65 (x = 0.313, y = 0.329)	±1 JND

Table 1. Color Temperature

Note: If there is no NTSC Window signal (with burst), use Step signal.

3-9-2. Analog RGB Adjustment (PVM-14N6A, PVM-14N6E, PVM-14N6U, PVM-20N6E, PVM-20N6U)

1. Select RGB signal.
2. Input the all gray signal (Fig. 3) into the RGB input.
3. Adjust the luminance to 3 ±0.2 nit using 58 C/O OFFSET RGB.
4. Adjust the white balance to the color temperature shown in Table 1 using 59 C/O R FINE RGB and 61 C/O B FINE RGB.
5. Repeat steps 3 and 4 so that the luminance and white balance become the specifications shown in Table 1.
6. Input the window signal (Fig. 4) into the RGB input.
7. Adjust the luminance to 150 ±1 nit using 62 DRV ALL RGB.
8. Adjust the white balance to the color temperature shown in Table 1 using 63 DRV R RGB and 65 DRV B RGB.
9. Repeat steps 7 and 8 so that the luminance and white balance become the specifications shown in Table 1.
10. The cutoff varies by changing the drives. Therefore, repeat steps 3 to 9 until the luminance and color temperature of the arive and cutoff meet the specification.
11. Repeat steps 2 to 10 so that the luminance and white balance of the cut-off side (Fig. 3) and drive side (Fig. 4) become the specifications shown in Table 1.
12. Save the adjustment data.

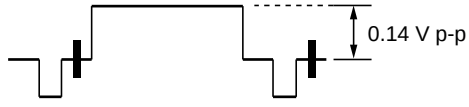


Fig. 3. 525/60 All Gray Signal

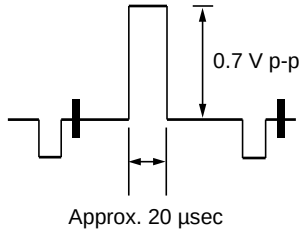


Fig. 4. 525/60 Window Signal

3-9-3. SECAM Cut-off Adjustment

1. Select LINE-A input.
2. Input the SECAM all gray signal (Fig. 5) into the LINE-A.
3. Adjust the luminance to 3 ±0.2 nit using 50 C/O OFFSET SECAM.
4. Adjust the white balance to the color temperature shown in Table 1 using 51 C/O R FINE SECAM and 53 C/O B FINE SECAM.
5. Repeat steps 3 and 4 so that the luminance and white balance become the specifications shown in Table 1.
6. Save the adjustment data.

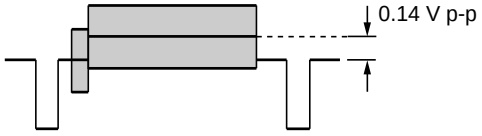


Fig.5. SECAM all gray signal

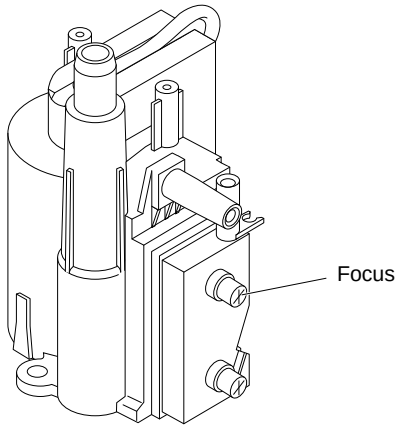
3-9-4. Sub-Brightness Adjustment

After completing the adjustments in 3-9-1, 3-9-2, and 3-9-3, set the sub-brightness data as follows.

No.	Item	Data
33	SUB BRT CVBS	33
34	SUB BRT RGB	33

3-10. FOCUS ADJUSTMENT

Adjust RV702 of the CA board for the 14-inch model.
Adjust RV at the top of the FBT for the 20-inch model.



1. Input the 525 monoscope signal.
2. Adjust the focus so that the focus of the “30” at the center of the screen becomes optimum.
3. Switch the signal to all white, and check the uniformity.

SECTION 4
SAFETY RELATED ADJUSTMENTS

Note: The "4-1. B+ Voltage Check" and "4-2. Protection Circuit (Hold-down circuit) Check" should always be performed when replacing the following components marked ◪ on the schematic diagram.

A board

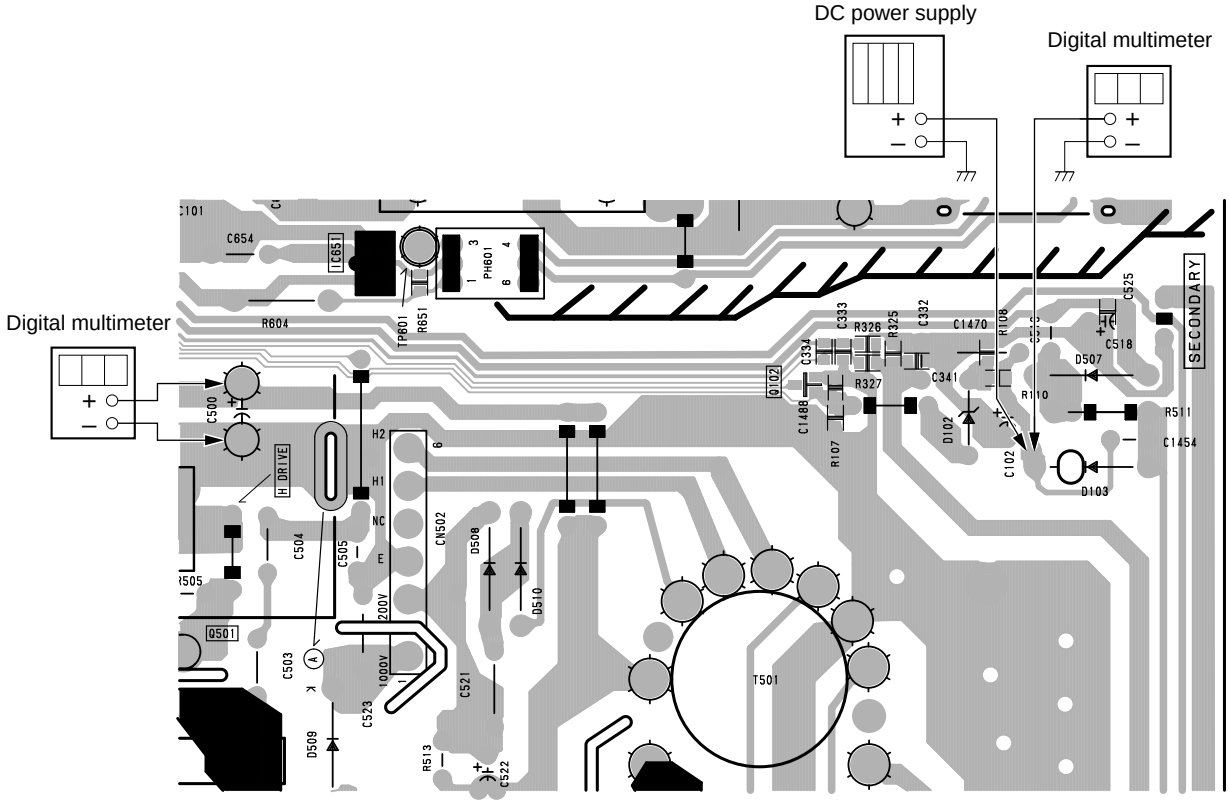
Marked products (◪) C102, C331, C332, C333, C334, C335, C341, C390, C507, D102, D103, C1454, IC001, IC301, IC552, L505, Q102, R107, R108, R110, R324, R325, R326, R327, R328, R329, R330, T501

4-1. B+ VOLTAGE CHECK

Note: Be sure to use the NF power supply. If not, use an ordinary power supply of its distortion factor is 3 % or less.

Input voltage: $130 \pm {}^{3}_{0}$ Vac
Input signal: Black
Controls: BRIGHTNESS ⇨ Minimum
CONTRAST ⇨ Minimum
Specification: Confirm that the voltage at C500 on the A board is 116.0 Vdc or less.

A BOARD (B SIDE)



4-2. PROTECTION CIRCUIT (HOLD-DOWN CIRCUIT) CHECK

Note: Be sure to use the NF power supply. If not, use an ordinary power supply of its distortion factor is 3% or less.

1. Protection Circuit Normal Operation Check

Input voltage: 120 ± 3 Vac
Input signal: Black
Controls: BRIGHTNESS ⇨ Minimum
CONTRAST ⇨ Minimum
Specification: Confirm that the voltage at Cathode of D103 on the A board and ground is greater than 99.0 Vdc.

2. Protection Circuit Operation Check (1)

Input voltage: 130 Vac
Input signal: Black
Controls: 14-inch: IABL = 40 ±20 µA
20-inch: IABL = 120 ± 20 µA
Specification: Apply following voltage to Cathode of D103 on the A board from the external DC power supply and make sure that the hold-down circuit doesn't work.
14-inch: 119.6 $^{+0}_{-0.4}$ Vac
20-inch: 145.2 $^{+0}_{-0.4}$ Vac

3. Protection Circuit Operation Check (2)

Input voltage: 130 Vac
Input signal: Black
Controls: 14-inch: IABL = 40 ±20 µA
20-inch: IABL = 120 ± 20 µA
Specification: Apply following voltage to Cathode of D103 on the A board from the external DC power supply and make sure that the hold-down circuit works.
14-inch: 128.4 $^{+0}_{-0.4}$ Vac
20-inch: 156.6 $^{+0}_{-0.4}$ Vac

SECTION 5
CIRCUIT ADJUSTMENTS

5-1. PREPARATIONS

Input signals within ±2 % of the following specifications.

Signal		Signal Contents	Standard Level P-W
COMPOSITE VIDEO (75 % COLOR BAR)	NTSC 3.58 NTSC 4.43	100 % WHITE	0.714 V
		75 % WHITE	0.536 V
		BURST (GREEN)	286 mV p-p (632 mV p-p)
	PAL SECAM	100 % WHITE	0.7 V
		75 % WHITE	0.525 V
		PAL BURST (GREEN)	300 mV p-p (664 mV p-p)

5-2. DEFLECTION SYSTEM ADJUSTMENT

5-2-1. Vertical Deflection Section Adjustment

Note: The 16 : 9 mode is available only for the PVM-14N6U and PVM-20N6U.

		525 Monoscope	625 Special CB
4 : 3		11.75 ±0.2 frames	12.8 ±0.3 frames
16 : 9	14-inch	157 mm	157 mm
	20-inch	221 mm	221 mm

Vertical Size Specifications

1. Input the 525 Monoscope signal.
2. Set CONTRAST to 80 %.
   Set BRIGHTNESS to standard (STD).
3. Set the service mode.
4. Adjust the vertical size to the specified value using 89 V SIZE.
   Optimize the vertical linearity using 92 V LINEARITY and 91 VS-CORRECTION.
   Adjust the vertical centering using 88 V CENTER. (Refer to Note 1.)
5. Check that the vertical size is within the specification.
6. Set the 16 : 9 mode.
7. Check that the vertical size is within the 16 : 9 mode specification. (Refer to Note 2.)
8. Return to the 4 : 3 mode.
9. Input the 625 special color bar signal.
10. Check that the vertical size is within the specification.
11. Set the 16 : 9 mode.
12. Check that the vertical size is within the 16 : 9 mode specification.

Note 1: Set 89 V SIZE within the "10 to 63" range. Always set 93 V LIN UPPER and 94 V LIN LOWER to "0."

Note 2: Measure the vertical size of the 16 : 9 mode with no flag signal in the vicinity of the image.

5-2-2. Horizontal Deflection Section Adjustment

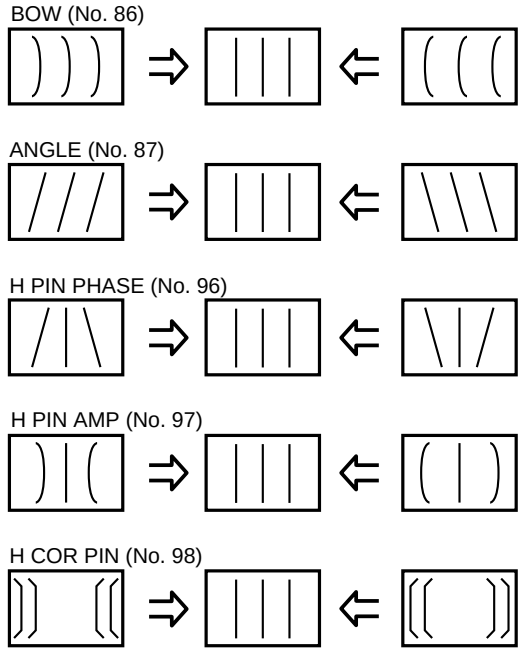
Note 1: Make sure that the "3-4. Raster Centering Adjustment" has been completed before performing this adjustment.

Note 2: The 16 : 9 mode is available only for the PVM-14N6U and PVM-20N6U.

1. Input the 525 Monoscope signal.
2. Set CONTRAST to 80 %.
   Set BRIGHTNESS to standard (STD).
3. Set the service mode.
4. Adjust roughly the horizontal size to 16 frames using 95 H SIZE.
5. Adjust the horizontal deflection section using 97 H PIN AMP, 96 H PIN PHASE, 98 H CORNER PIN, 86 BOW, 87 ANGLE, and 95 H SIZE.
   While correcting the distortion, adjust so that the horizontal and vertical of the screen become perpendicular.
6. Set the 16 : 9 mode.
7. Check that the screen distortion is normal.
8. Input the 625 special color bar signal.
9. Check that the screen distortion is normal for both 4 : 3 and 16 : 9.

	525 Monoscope	625 Special CB
4 : 3	15.75 ±0.2 frames	16.8 ±0.3 frames
16 : 9	15.75 ±0.2 frames	16.8 ±0.3 frames

Horizontal Size Specification



5-2-3. Horizontal Centering Adjustment

The register for adjusting the horizontal centering requires 5 adjustments depending on the combination of the input and signal.

No.	Item	Input	Adjustment Signal
71	H CENT 60 Hz CVBS	LINE-A	525 Monoscope
72	H CENT 60 Hz RGB	RGB	525 Monoscope
73	H CENT 50 Hz CVBS	LINE-A	625 special color bar
74	H CENT 50 Hz RGB	RGB	625 special color bar
75	H CENT NTSC COMB	LINE-A	525 Monoscope

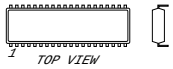
1. Select LINE-A.
2. Input the 525 Monoscope signal into the LINE-A input.
3. Select NTSC at the COLOR SELECT menu.
4. Adjust the horizontal centering using 71 H CENT 60HZ CVBS.
5. Select AUTO at the COLOR SELECT menu.
6. Adjust the horizontal centering using 75 H CENT NTSC COMB.
7. Input the 625 special color bar signal into the LINE-A input.
8. Adjust the horizontal centering using 73 H CENT 50HZ CVBS.
9. Save the data.

Note: The following items 10 to 16 are for PVM-14N6A, PVM-14N6E, PVM-20N6A and PVM-20N6E.

10. Select RGB.
11. Select SYNC ON G at the RGB SYNC menu.
12. Input the 525 Monoscope signal into the RGB input.
13. Adjust the horizontal centering using 72 H CENT 60HZ RGB.
14. Input the 625 special color bar signal into the RGB input.
15. Adjust the horizontal centering using 74 H CENT 50HZ RGB.
16. Save the data.

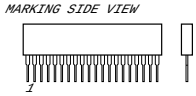
SECTION 6
SEMICONDUCTORS

BA4558
MM1096BD
M24C01-BN6
TDA7052A
UPC4558C



8Pin DIP

BA7604N



10Pin SIP

CXA2060BS

48Pin DIP

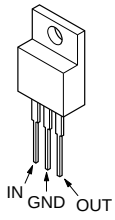
CXA85116B-670S

64Pin DIP

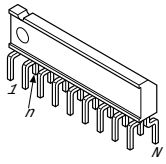
MC14052BCP

16Pin DIP

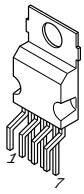
MC7805CT
MC7809CT
NJM7809FA
SE115N
TA7805S



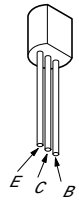
STR-S6708



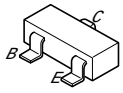
STV9379



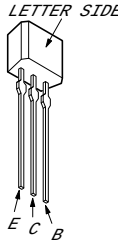
BF421
BF871
2SA1091O-TPE2
2SA1091-O
2SA933S-RT



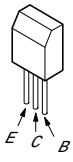
2SA1037AK-T146-Q
2SC1623-L5L6
2SA2412K-T-146-Q



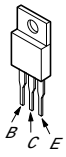
2SA1175-HFE
2SC1740S-RT
2SC2785-HFE



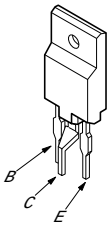
2SC3209LK
2SC3209LK-TP



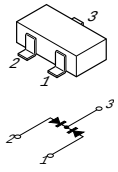
2SC3852A
2SD2394-EF



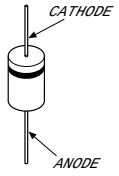
2SD1878-CA
2SD1877S-SONY-CA



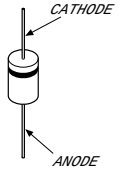
DAN202K
DAN202K-T-146



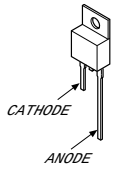
EGP20G
EL1Z
EL1Z-V1
GP08D
GP08DPKG23
RGP02-17EL-6433
RGP02-17PKG23
RGP10GPKG23



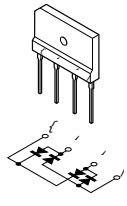
ERC06-15S
RGP15J-6040G23
1SS133T-77



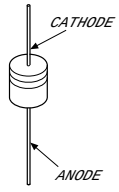
FML-G12S



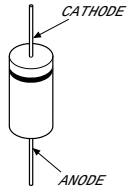
GPU4JL-6088



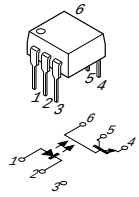
MTZJ-11A
MTZJ-5.1B
MTZJ-6.2C
MTZJ-7.5B
RD5.1ESB2



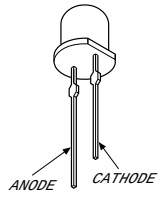
MTZJ-36B
RU4AM-T3



RC111YS



SLR-56MC3F



SECTION 7
EXPLODED VIEWS

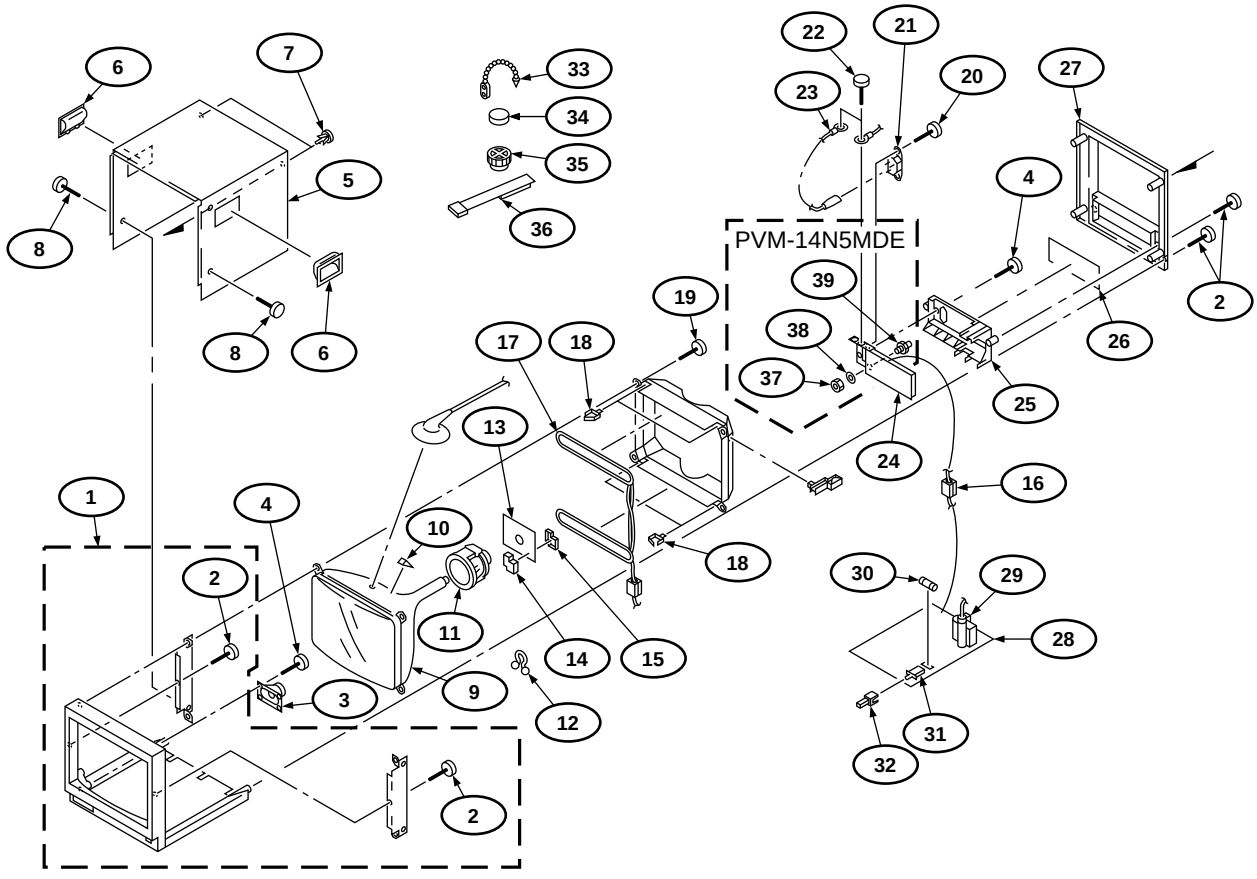
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by mark ⚠ are critical for safety. Replace only with part number specified.

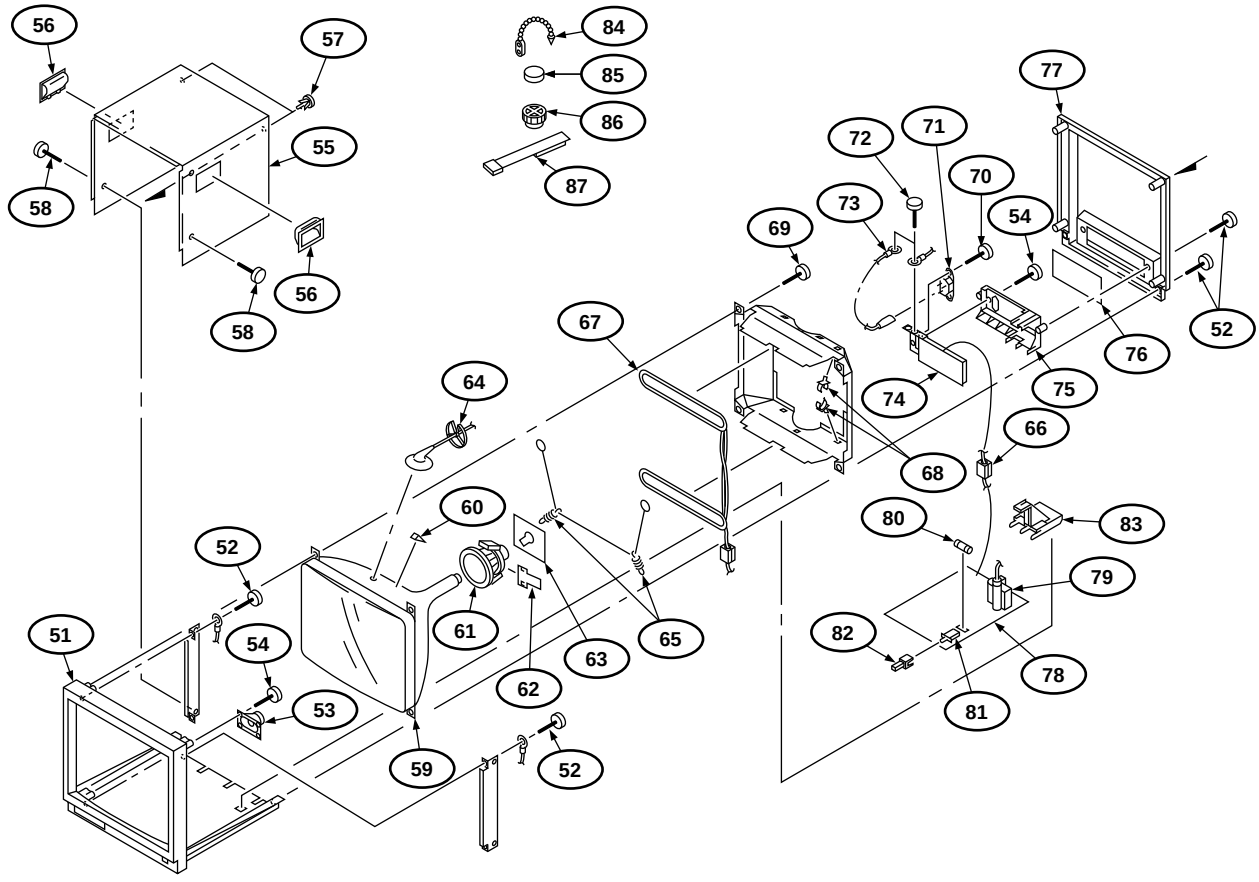
Les composants identifies par une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

7-1. CHASSIS (14-INCH)



Ref.No.	Part No.	Description	Remark
1	X-4033-973-1	BEZNET ASSY (PVM-14N6A/14N6E/14N6U)	2
	X-4033-974-1	BEZNET ASSY (PVM-14N5A/14N5E/14N5U)	2
	X-4033-975-1	BEZNET ASSY (SSM-14N5A/14N5E/14N5U)	2
	X-4033-976-2	BEZNET ASSY (PVM-14N5MDE)	2
2	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
3	1-505-188-11	SPEAKER (4X7CM)	
4	4-039-356-01	SCREW (3X12), (+) BV TAPPING	
5	4-050-073-11	CABINET (except PVM-14N5MDE)	
	A-1501-211-B	CABINET (PVM-14N5MDE)	
6	4-389-320-21	HANDLE	
7	4-391-825-01	RIVET, NYLON	
8	4-847-802-11	SCREW (M4X8), CLAW	
9	⚠ 8-738-342-05	PICTURE TUBE (M34KBE10X)	
10	3-704-495-01	SPACER, DY	
11	⚠ 8-451-472-11	DEFLECTION YOKE (Y14MGAT)	
12	4-847-334-02	PURSE LOCK (DIA.15)	
13	* A-1331-827-A	CA BOARD, COMPLETE	
14	* 4-374-912-01	COVER (MAIN), CV VOL	
15	* 4-374-913-01	COVER (REAR LID), CV VOL	
16	1-543-653-11	CORE ASSY, BEAD(DIVISION TYPE)	
17	⚠ 1-426-442-21	COIL, DEMAGNETIZATION	
18	* 4-316-015-00	HOLDER, WIRE	
19	4-203-648-01	SCREW (5), SELF TAPPING	
20	4-050-078-01	SCREW, +B M3X10	
21	⚠ 1-251-263-11	INLET, AC	
22	4-050-077-01	SCREW +PSW M4X8	
23	* 1-900-214-07	WIRE ASSY, SEFETY EARTH	
24	* A-1270-398-A	Q BOARD, COMPLETE (PVM-14N5A/14N5E/14N5MDE/14N5U)	
24	* A-1270-399-A	Q BOARD, COMPLETE (PVM-14N6A/14N6E/14N6U)	
	* A-1270-401-A	Q BOARD, COMPLETE (SSM-14N5A/14N5E/14N5U)	
25	4-050-074-03	PANEL, CONNECTOR	
26	4-050-082-02	LABEL, CONNECTOR (PVM-14N6A/14N6E/14N6U)	
	4-050-082-12	LABEL, CONNECTOR (PVM-14N5A/14N5E/14N5U)	
	4-050-082-22	LABEL, CONNECTOR (SSM-14N5A/14N5E/14N5U)	
	4-050-082-32	LABEL, CONNECTOR (PVM-14N5MDE)	
27	4-050-081-01	PANEL, REAR	
28	* A-1298-614-A	A BOARD, COMPLETE (PVM-14N5A/14N5E/14N5U)	
	* A-1298-615-A	A BOARD, COMPLETE (PVM-14N6A/14N6E/14N6U)	
	* A-1298-623-A	A BOARD, COMPLETE (SSM-14N5A/14N5E/14N5U)	
	* A-1298-624-A	A BOARD, COMPLETE (PVM-14N5MDE)	
29	⚠ 8-598-830-00	TRANSFORMER ASSY, FLYBACK (NX-4301//U2A4)	
30	⚠ 1-576-231-11	FUSE (H.B.C.) (4A/250V)	
31	⚠ 1-571-433-31	SWITCH, PUSH (AC POWER)	
32	4-050-085-01	BUTTON, POWER SWITCH	
33	4-308-870-00	CLIP, LEAD WIRE	
34	1-452-032-00	MAGNET,DISK ; 10mmø	
35	1-452-094-00	MAGNET, ROTATABLE DISK ; 15mmø	
36	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
37	* 3-175-741-01	NUT (PVM-14N5MDE)	
38	* 3-175-742-01	WASHER (PVM-14N5MDE)	
39	* 3-175-740-01	TERMINAL (PVM-14N5MDE)	

7-2. CHASSIS (20-INCH)



Ref.No.	Part No.	Description	Remark
51	X-4033-977-1	BEZNET ASSY	(PVM-20N6A/20N6E/20N6U)
	X-4033-978-1	BEZNET ASSY	(PVM-20N5A/20N5E/20N5U)
	X-4033-979-1	BEZNET ASSY	(SSM-20N5A/20N5E/20N5U)
52	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
53	1-505-188-11	SPEAKER (4X7CM)	
54	4-039-356-01	SCREW (3X12), (+) BV TAPPING	
55	4-050-060-33	CABINET	
56	4-389-320-21	HANDLE	
57	4-391-825-01	RIVET, NYLON	
58	4-847-802-11	SCREW (M4X8), CLAW	
59	⚠ 8-736-135-05	PICTURE TUBE (M49KGH10X)	
60	3-704-495-01	SPACER, DY	
61	⚠ 1-451-349-11	DEFLECTION YOKE (Y20FZA)	
62	4-030-120-01	PLATE, CORRECTION, TLV	
63	* A-1331-828-A	CB BOARD, COMPLETE	
64	3-704-372-01	HOLDER, HV CABLE	
65	4-369-318-31	SPRING, TENSION	
66	1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	
67	⚠ 1-411-750-11	COIL, DEMAGNETIC	
68	4-041-021-02	HOLDER, DEGAUSE COIL	
69	4-203-648-01	SCREW (5), SELF TAPPING	
70	4-050-078-01	SCREW, +B M3X10	
71	⚠ 1-251-263-11	INLET, AC	
72	4-050-077-01	SCREW +PSW M4X8	
73	* 1-900-214-07	WIRE ASSY, SEFETY EARTH	

Ref.No.	Part No.	Description	Remark
74	* A-1270-398-A	Q BOARD, COMPLETE	(PVM-20N5A/20N5E/20N5U)
	* A-1270-399-A	Q BOARD, COMPLETE	(PVM-20N6A/20N6E/20N6U)
	* A-1270-401-A	Q BOARD, COMPLETE	(SSM-20N5A/20N5E/20N5U)
75	4-050-074-03	PANEL, CONNECTOR	
76	4-050-082-02	LABEL, CONNECTOR	(PVM-20N6A/20N6E/20N6U)
76	4-050-082-12	LABEL, CONNECTOR	(PVM-20N5A/20N5E/20N5U)
	4-050-082-22	LABEL, CONNECTOR	(SSM-20N5A/20N5E/20N5U)
77	4-050-063-01	PANEL, REAR	
78	* A-1298-619-A	A BOARD, COMPLETE	(PVM-20N5A/20N5E/20N5U)
	* A-1298-621-A	A BOARD, COMPLETE	(PVM-20N6A/20N6E/20N6U)
78	* A-1298-622-A	A BOARD, COMPLETE	(SSM-20N5A/20N5E/20N5U)
79	⚠ 1-453-277-11	TRANSFORMER ASSY, FLYBACK	(NX-4008//U2A4)
80	⚠ 1-576-231-11	FUSE (H.B.C.) (4A/250V)	
81	⚠ 1-571-433-31	SWITCH, PUSH (AC POWER)	
82	4-050-085-01	BUTTON, POWER SWITCH	
83	4-050-066-01	HOLDER, PWB	
84	4-308-870-00	CLIP, LEAD WIRE	
85	1-452-032-00	MAGNET,DISK ; 10mmø	
86	1-452-094-00	MAGNET, ROTATABLE DISK ; 15mmø	
87	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifies par une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F: nonflammable

When indicating parts by reference number, please include the board name.

- CAPACITORS
  PF: μμ F
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

Q

Ref.No.	Part No.	Description	Remark
	* A-1270-398-A	Q BOARD, COMPLETE ********** (PVM-14N5A/E/U, 14N5MDE, 20N5A/E/U)	
	* A-1270-399-A	Q BOARD, COMPLETE ********** (PVM-14N6A/E/U, 20N6A/E/U)	
	* A-1270-401-A	Q BOARD, COMPLETE ********** (SSM-14N5A/E/U, 20N5A/E/U)	
	1-694-045-11	TERMINAL BOARD ASSY, I/O (J1301, 1302, 1305, 1306, 1311-1317, 1320, 1321) (PVM-14N6A/E/U, 20N6A/E/U)	
	1-694-046-11	TERMINAL BOARD ASSY, I/O (J1301, 1302, 1305, 1306, 1317, 1320) (PVM-14N5A/E/U, 14N5MDE, 20N5A/E/U)	
	1-694-047-11	TERMINAL BOARD ASSY, I/O (J1301, 1302, 1305, 1306) (SSM-14N5A/E/U, 20N5A/E/U)	
	7-627-557-48	SCREW (2.6X10), +P TAPPING	
		<CAPACITOR>	
C1303	1-164-232-11	CERAMIC CHIP 0.01µF 10% 50V	
C1304	1-113-340-11	ELECT 47µF 20% 25V	
C1305	1-164-005-11	CERAMIC CHIP 0.47µF 25V	
C1308	1-126-795-11	ELECT 10µF 20% 25V	
C1317	1-126-795-11	ELECT 10µF 20% 25V (PVM-14N6A/E/U, 20N6A/E/U)	
C1319	1-126-795-11	ELECT 10µF 20% 25V (PVM-14N6A/E/U, 20N6A/E/U)	
C1320	1-126-795-11	ELECT 10µF 20% 25V (PVM-14N6A/E/U, 20N6A/E/U)	
C1322	1-126-795-11	ELECT 10µF 20% 25V (PVM-14N6A/E/U, 20N6A/E/U)	
C1325	1-126-795-11	ELECT 10µF 20% 25V (PVM-14N6A/E/U, 20N6A/E/U)	
C1326	1-126-795-11	ELECT 10µF 20% 25V	
C1327	1-126-795-11	ELECT 10µF 20% 25V	
C1328	1-126-795-11	ELECT 10µF 20% 25V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1329	1-126-795-11	ELECT 10µF 20% 25V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1330	1-164-232-11	CERAMIC CHIP 0.01µF 10% 50V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1331	1-126-795-11	ELECT 10µF 20% 25V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1332	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C1333	1-163-121-00	CERAMIC CHIP 150PF 5% 50V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1334	1-163-121-00	CERAMIC CHIP 150PF 5% 50V (PVM-14N6A/E/U, 20N6A/E/U)	
C1335	1-164-232-11	CERAMIC CHIP 0.01µF 10% 50V	
C1341	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1342	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1343	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1344	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1345	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1346	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1347	1-164-005-11	CERAMIC CHIP 0.47µF 25V	
C1348	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1349	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1350	1-163-235-11	CERAMIC CHIP 22PF 5% 50V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1350	1-216-295-91	SHORT 0 (SSM-14N5A/E/U, 20N5A/E/U)	
C1351	1-163-235-11	CERAMIC CHIP 22PF 5% 50V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1351	1-216-295-91	SHORT 0 (SSM-14N5A/E/U, 20N5A/E/U)	
C1352	1-163-235-11	CERAMIC CHIP 22PF 5% 50V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1352	1-216-295-91	SHORT 0 (SSM-14N5A/E/U, 20N5A/E/U)	
C1353	1-163-235-11	CERAMIC CHIP 22PF 5% 50V (except SSM-14N5A/E/U, 20N5A/E/U)	
C1353	1-216-295-91	SHORT 0 (SSM-14N5A/E/U, 20N5A/E/U)	
C1354	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1355	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1356	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1357	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1358	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1359	1-113-340-11	ELECT 47µF 20% 25V	
C1360	1-113-340-11	ELECT 47µF 20% 25V	
C1361	1-113-340-11	ELECT 47µF 20% 25V	
C1362	1-113-340-11	ELECT 47µF 20% 25V	
		<CONNECTOR>	
CN1301 *	1-564-521-11	PLUG, CONNECTOR 6P	
CN1302 *	1-564-522-11	PLUG, CONNECTOR 7P (except SSM-14N5A/E/U, 20N5A/E/U)	
CN1303 *	1-564-522-11	PLUG, CONNECTOR 7P (except PVM-14N5A/E/U, 14N5MDE, 20N5A/E/U)	
		<DIODE>	
D1300	8-719-991-33	DIODE 1SS133T-77	
D1301	8-719-991-33	DIODE 1SS133T-77	
D1302	8-719-991-33	DIODE 1SS133T-77	
D1303	8-719-991-33	DIODE 1SS133T-77	
D1304	8-719-991-33	DIODE 1SS133T-77	
D1305	8-719-991-33	DIODE 1SS133T-77	
D1308	8-719-991-33	DIODE 1SS133T-77	
D1309	8-719-991-33	DIODE 1SS133T-77	
D1314	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1315	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1316	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1317	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1318	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1319	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1320	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1321	8-719-991-33	DIODE 1SS133T-77 (PVM-14N6A/E/U, 20N6A/E/U)	
D1322	8-719-923-74	DIODE MTZJ-T-77-11A (PVM-14N6A/E/U, 20N6A/E/U)	

Ref.No.	Part No.	Description			Remark
D1324	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1325	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1326	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1327	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1328	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1329	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1330	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1331	8-719-991-33	DIODE 1SS133T-77			(except SSM-14N5A/E/U, 20N5A/E/U)
D1332	8-719-991-33	DIODE 1SS133T-77			(PVM-14N6A/E/U, 20N6A/E/U)
D1333	8-719-991-33	DIODE 1SS133T-77			(PVM-14N6A/E/U, 20N6A/E/U)
	<IC>				
IC1301	8-759-984-96	IC BA7604N			
	<JACK>				
J1303	1-565-167-12	TERMINAL, (S) (WITH SW) 4P			
J1304	1-569-578-11	TERMINAL, S (WITH SW)			
J1319	1-565-167-12	TERMINAL, (S) (WITH SW) 4P			(except SSM-14N5A/E/U, 20N5A/E/U)
	<TRANSISTOR>				
Q1302	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1305	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q1308	8-729-119-78	TRANSISTOR 2SC2785-HFE			(PVM-14N6A/E/U, 20N6A/E/U)
Q1309	8-729-119-78	TRANSISTOR 2SC2785-HFE			(PVM-14N6A/E/U, 20N6A/E/U)
Q1310	8-729-119-78	TRANSISTOR 2SC2785-HFE			(PVM-14N6A/E/U, 20N6A/E/U)
Q1311	8-729-119-76	TRANSISTOR 2SA1175-HFE			(PVM-14N6A/E/U, 20N6A/E/U)
Q1312	8-729-119-78	TRANSISTOR 2SC2785-HFE			(PVM-14N6A/E/U, 20N6A/E/U)
Q1313	8-729-119-78	TRANSISTOR 2SC2785-HFE			(except SSM-14N5A/E/U, 20N5A/E/U)
Q1314	8-729-119-76	TRANSISTOR 2SA1175-HFE			(except SSM-14N5A/E/U, 20N5A/E/U)
	<RESISTOR>				
R1303	1-216-009-00	RES,CHIP	22	5% 1/10W	
R1304	1-214-702-00	METAL	75	1% 1/4W	
R1305	1-216-065-00	RES,CHIP	4.7K	5% 1/10W	
R1307	1-214-702-00	METAL	75	1% 1/4W	
R1308	1-216-059-00	RES,CHIP	2.7K	5% 1/10W	
R1309	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R1310	1-216-073-00	RES,CHIP	10K	5% 1/10W	
R1311	1-214-702-00	METAL	75	1% 1/4W	
R1312	1-216-065-00	RES,CHIP	4.7K	5% 1/10W	

Ref.No.	Part No.	Description			Remark
R1317	1-216-065-00	RES,CHIP	4.7K	5% 1/10W	
R1318	1-216-119-00	RES,CHIP	820K	5% 1/10W	
R1319	1-216-107-00	RES,CHIP	270K	5% 1/10W	
R1320	1-216-097-00	RES,CHIP	100K	5% 1/10W	
R1321	1-216-095-00	RES,CHIP	82K	5% 1/10W	
R1331	1-216-049-91	RES,CHIP	1K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1332	1-216-073-00	RES,CHIP	10K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1333	1-216-073-00	RES,CHIP	10K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1335	1-216-049-91	RES,CHIP	1K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1336	1-216-073-00	RES,CHIP	10K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1337	1-216-073-00	RES,CHIP	10K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1338	1-216-009-00	RES,CHIP	22	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1339	1-214-702-00	METAL	75	1% 1/4W	(PVM-14N6A/E/U, 20N6A/E/U)
R1340	1-216-049-91	RES,CHIP	1K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1341	1-216-073-00	RES,CHIP	10K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1342	1-216-073-00	RES,CHIP	10K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1343	1-216-009-00	RES,CHIP	22	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1344	1-214-702-00	METAL	75	1% 1/4W	(PVM-14N6A/E/U, 20N6A/E/U)
R1345	1-216-009-00	RES,CHIP	22	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1346	1-214-702-00	METAL	75	1% 1/4W	(PVM-14N6A/E/U, 20N6A/E/U)
R1347	1-216-065-00	RES,CHIP	4.7K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1348	1-216-119-00	RES,CHIP	820K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1349	1-216-107-00	RES,CHIP	270K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1350	1-216-097-00	RES,CHIP	100K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1351	1-216-095-00	RES,CHIP	82K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1352	1-216-059-00	RES,CHIP	2.7K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1355	1-216-049-91	RES,CHIP	1K	5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1356	1-214-702-00	METAL	75	1% 1/4W	(PVM-14N6A/E/U, 20N6A/E/U)
R1358	1-247-791-91	CARBON	22	5% 1/4W	
R1360	1-214-702-00	METAL	75	1% 1/4W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1361	1-247-791-91	CARBON	22	5% 1/4W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1362	1-216-009-00	RES,CHIP	22	5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1363	1-214-702-00	METAL	75	1% 1/4W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1364	1-216-065-00	RES,CHIP	4.7K	5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)

Q A

Ref.No.	Part No.	Description	Remark
R1365	1-214-702-00	METAL 75 1% 1/4W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1366	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1367	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	(except SSM-14N5A/E/U, 20N5A/E/U)
R1368	1-216-073-00	RES,CHIP 10K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1369	1-216-073-00	RES,CHIP 10K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1370	1-216-059-00	RES,CHIP 2.7K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1371	1-216-095-00	RES,CHIP 82K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1372	1-216-097-00	RES,CHIP 100K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1373	1-216-119-00	RES,CHIP 820K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1374	1-216-107-00	RES,CHIP 270K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1375	1-216-065-00	RES,CHIP 4.7K 5% 1/10W	(except SSM-14N5A/E/U, 20N5A/E/U)
R1376	1-216-073-00	RES,CHIP 10K 5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1378	1-216-009-00	RES,CHIP 22 5% 1/10W	(PVM-14N6A/E/U, 20N6A/E/U)
R1380	1-216-047-91	RES, CHIP 820 5% 1/10W	
R1381	1-216-047-91	RES, CHIP 820 5% 1/10W	

****

*	A-1298-614-A	A BOARD, COMPLETE **********	(PVM-14N5A/E/U)
*	A-1298-615-A	A BOARD, COMPLETE **********	(PVM-14N6A/E/U)
*	A-1298-619-A	A BOARD, COMPLETE **********	(PVM-20N5A/E/U)
*	A-1298-621-A	A BOARD, COMPLETE **********	(PVM-20N6A/E/U)
*	A-1298-622-A	A BOARD, COMPLETE **********	(SSM-20N5A/E/U)
*	A-1298-623-A	A BOARD, COMPLETE **********	(SSM-14N5A/E/U)
*	A-1298-624-A	A BOARD, COMPLETE **********	(PVM-14N5MDE)
	1-533-223-11	HOLDER, FUSE	
	1-540-044-11	SOCKET, IC	
	4-200-407-01	HOLDER, LED	
	4-201-023-01	SPACER, INSULATING	
	4-202-373-01	SPRING, IC	

Ref.No.	Part No.	Description	Remark
	4-382-854-11	SCREW (M3X10), P, SW (+)	
		<CAPACITOR>	
C001	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C002	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C003	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C004	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C006	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	(PVM-14N6A/E/U, 20N6A/E/U)
C007	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C008	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C010	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C011	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C012	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C013	1-126-964-11	ELECT 10µF 20% 50V	
C014	1-163-253-11	CERAMIC CHIP 120PF 5% 50V	
C015	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C016	1-126-933-11	ELECT 100µF 20% 16V	
C017	1-126-964-11	ELECT 10µF 20% 50V	
C018	1-126-964-11	ELECT 10µF 20% 50V	
C019	1-126-964-11	ELECT 10µF 20% 50V	
C020	1-126-964-11	ELECT 10µF 20% 50V	
C021	1-126-964-11	ELECT 10µF 20% 50V	
C022	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C023	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C024	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C025	1-136-165-00	FILM 0.1µF 5% 50V	
C026	1-104-664-11	ELECT 47µF 20% 16V	
C027	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C028	1-163-009-11	CERAMIC CHIP 0.001µF 10% 50V	
C030	1-104-664-11	ELECT 47µF 20% 16V	
C031	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C032	1-104-664-11	ELECT 47µF 20% 16V	
C101	1-107-907-11	ELECT 22µF 20% 50V	
C102	1-107-635-11	ELECT 4.7µF 20% 160V	
C103	1-102-050-00	CERAMIC 0.01µF 500V	
C201	1-126-964-11	ELECT 10µF 20% 50V	
C202	1-126-964-11	ELECT 10µF 20% 50V	
C203	1-126-934-11	ELECT 220µF 20% 16V	
C204	1-126-964-11	ELECT 10µF 20% 50V	
C206	1-126-940-11	ELECT 330µF 20% 25V	
C207	1-163-017-00	CERAMIC CHIP 0.0047µF 10% 50V	
C208	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C301	1-126-960-11	ELECT 1µF 20% 50V	
C302	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C303	1-107-714-11	ELECT 10µF 20% 50V	
C304	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	
C305	1-126-964-11	ELECT 10µF 20% 50V	
C306	1-126-964-11	ELECT 10µF 20% 50V	
C307	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C308	1-126-961-11	ELECT 2.2µF 20% 50V	
C309	1-164-182-11	CERAMIC CHIP 0.0033µF 10% 50V	
C310	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	(PVM-14N6A/E/U, 20N6A/E/U)
C311	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	(PVM-14N6A/E/U, 20N6A/E/U)
C312	1-164-004-11	CERAMIC CHIP 0.1µF 10% 25V	(PVM-14N6A/E/U, 20N6A/E/U)

Ref.No.	Part No.	Description				Remark
C313	1-163-023-00	CERAMIC CHIP	0.015µF	10%	50V	
C314	1-163-023-00	CERAMIC CHIP	0.015µF	10%	50V	
C315	1-163-023-00	CERAMIC CHIP	0.015µF	10%	50V	
C316	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C317	1-126-940-11	ELECT	330µF	20%	25V	
C318	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C319	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C320	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C321	1-126-964-11	ELECT	10µF	20%	50V	
C322	1-126-963-11	ELECT	4.7µF	20%	50V	
C323	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C324	1-126-933-11	ELECT	100µF	20%	16V	
C325	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C326	1-126-957-11	ELECT	0.22µF	20%	50V	
C327	1-102-110-00	CERAMIC	220PF	10%	50V	
C328	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C329	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C330	1-136-177-00	FILM	1µF	5%	50V	
C331	1-101-810-00	CERAMIC	100PF	5%	500V	
C332	1-136-177-00	FILM	1µF	5%	50V	
C333	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C334	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V	
C335	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C336	1-126-964-11	ELECT	10µF	20%	50V	
C337	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C338	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C339	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C340	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C341	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C342	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C343	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C344	1-102-514-11	CERAMIC	22PF	5%	50V	
C345	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C351	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C352	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C353	1-126-940-11	ELECT	330µF	20%	25V	
C354	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C355	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	(20inch model)
C355	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(14inch model)
C356	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C357	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C358	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C359	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	(20inch model)
C359	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(14inch model)
C360	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C361	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C362	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
C363	1-163-131-00	CERAMIC CHIP	390PF	5%	50V	(20inch model)
C363	1-163-263-11	CERAMIC CHIP	330PF	5%	50V	(14inch model)
C364	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C366	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C367	1-126-933-11	ELECT	100µF	20%	16V	
C368	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C372	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C373	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C374	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C375	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C376	1-102-973-00	CERAMIC	100PF	5%	50V	
C377	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C378	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C379	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C380	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C381	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C382	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C383	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C384	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C385	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C386	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C387	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C388	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V	
C389	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C390	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C401	1-126-964-11	ELECT	10µF	20%	50V	
C402	1-126-964-11	ELECT	10µF	20%	50V	
C403	1-107-714-11	ELECT	10µF	20%	50V	
C404	1-126-964-11	ELECT	10µF	20%	50V	
C405	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C406	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C407	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C408	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C409	1-126-964-11	ELECT	10µF	20%	50V	
C410	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C411	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C412	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C413	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C414	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	
C415	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C416	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	
C417	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	(except SSM-14N5A/E/U, 20N5A/E/U)
C417	1-216-295-91	SHORT	0			(SSM-14N5A/E/U, 20N5A/E/U)
C418	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	(except SSM-14N5A/E/U, 20N5A/E/U)
C418	1-216-295-91	SHORT	0			(SSM-14N5A/E/U, 20N5A/E/U)
C419	1-163-113-00	CERAMIC CHIP	68PF	5%	50V	(except SSM-14N5A/E/U, 20N5A/E/U)
C419	1-216-295-91	SHORT	0			(SSM-14N5A/E/U, 20N5A/E/U)
C420	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V	(except SSM-14N5A/E/U, 20N5A/E/U)
C420	1-216-295-91	SHORT	0			(SSM-14N5A/E/U, 20N5A/E/U)
C421	1-126-933-11	ELECT	100µF	20%	16V	
C422	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C423	1-126-933-11	ELECT	100µF	20%	16V	
C424	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V	
C425	1-126-940-11	ELECT	330µF	20%	25V	
C426	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V	
C500	1-123-024-21	ELECT	33µF		160V	
C501	⚠ 1-117-648-11	FILM	15000PF	3%	1.2KV	

A

Ref.No.	Part No.	Description			Remark
C502	⚠ 1-130-077-91	FILM	0.018µF	5%	400V (20inch model)
C502	⚠ 1-129-716-91	FILM	0.015µF	5%	630V (14inch model)
C503	⚠ 1-162-116-91	CERAMIC	680PF	10%	2KV
C504	⚠ 1-162-116-91	CERAMIC	680PF	10%	2KV
C505	1-130-489-00	FILM	0.033µF	5%	50V
C506	1-136-541-11	FILM	1.5µF	5%	200V
C507	1-136-113-00	FILM	2µF	5%	200V
C508	1-102-228-00	CERAMIC	470PF	10%	500V
C509	1-107-636-11	ELECT	10µF	20%	160V
C510	1-136-105-00	FILM	0.33µF	5%	200V (20inch model)
C510	1-136-103-00	FILM	0.1µF	5%	200V (14inch model)
C511	1-106-371-00	MYLAR	0.015µF		200V
C512	1-102-228-00	CERAMIC	470PF	10%	500V
C513	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C514	1-107-924-11	ELECT	0.47µF	20%	50V
C516	1-126-941-11	ELECT	470µF	20%	25V
C517	1-101-810-00	CERAMIC	100PF	5%	500V
C518	1-126-941-11	ELECT	470µF	20%	25V
C519	1-101-810-00	CERAMIC	100PF	5%	500V
C522	1-107-638-11	ELECT	33µF	20%	160V
C523	1-162-114-00	CERAMIC	0.0047µF		2KV
C524	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C525	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C551	1-107-910-11	ELECT	100µF	20%	50V
C552	1-137-401-11	FILM	0.22µF	10%	100V
C553	1-107-905-11	ELECT	4.7µF	20%	50V
C554	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C555	1-126-964-11	ELECT	10µF	20%	50V
C556	1-126-964-11	ELECT	10µF	20%	50V
C557	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C559	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C601	⚠ 1-107-564-11	FILM	0.22µF	20%	300V
C602	⚠ 1-107-564-11	FILM	0.22µF	20%	300V
C603	⚠ 1-113-912-51	CERAMIC	0.0047µF	20%	250V
C604	⚠ 1-113-912-51	CERAMIC	0.0047µF	20%	250V
C605	⚠ 1-113-912-51	CERAMIC	0.0047µF	20%	250V
C606	⚠ 1-113-912-51	CERAMIC	0.0047µF	20%	250V
C607	1-113-608-11	ELECT(BLOCK)	470µF	20%	400V
C609	1-136-064-00	FILM	0.002µF	3%	2KV
C610	1-126-970-11	ELECT	330µF	20%	50V
C611	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C612	1-107-911-11	ELECT	220µF	20%	50V
C613	1-137-484-11	FILM	0.47µF	10%	630V
C615	⚠ 1-107-564-11	FILM	0.22µF	20%	300V
C616	⚠ 1-115-385-91	CERAMIC	0.0022µF	20%	125V
C617	⚠ 1-115-385-91	CERAMIC	0.0022µF	20%	125V
C618	⚠ 1-115-385-91	CERAMIC	0.0022µF	20%	125V
C619	⚠ 1-115-385-91	CERAMIC	0.0022µF	20%	125V
C651	1-117-791-11	ELECT(BLOCK)	1000µF	20%	160V
C652	1-107-914-11	ELECT	1000µF	20%	25V
C653	1-107-891-11	ELECT	3300µF	20%	25V
C654	1-107-364-11	FILM	0.01µF	10%	200V
C655	1-126-964-11	ELECT	10µF	20%	50V
C657	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C658	1-162-131-11	CERAMIC	220PF	10%	2KV

Ref.No.	Part No.	Description			Remark
C660	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C661	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C662	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C663	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C664	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C671	1-126-964-11	ELECT	10µF	20%	50V
C1401	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1402	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1403	1-102-514-11	CERAMIC	22PF	5%	50V
C1404	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1405	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1406	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1407	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1408	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1409	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1410	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1411	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1412	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1413	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1414	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1415	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1416	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1417	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1418	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1419	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1420	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1421	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1422	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1423	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1424	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1425	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1427	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1428	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1429	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1430	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1431	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1432	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1433	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1434	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1435	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1436	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1437	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1438	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1439	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1440	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1441	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1442	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1443	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1446	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1447	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1448	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1449	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1450	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1451	1-102-514-11	CERAMIC	22PF	5%	50V
C1452	1-115-339-11	CERAMIC CHIP	0.1µF	10%	50V
C1453	1-101-810-00	CERAMIC	100PF	5%	500V
C1454	1-101-810-00	CERAMIC	100PF	5%	500V
C1455	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C1456	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V

Ref.No.	Part No.	Description	Remark
C1457	1-163-245-11	CERAMIC CHIP 56PF 5% 50V	
C1458	1-163-259-91	CERAMIC CHIP 220PF 5% 50V	
C1459	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1460	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1461	1-163-259-91	CERAMIC CHIP 220PF 5% 50V	
C1462	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1463	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1464	1-115-339-11	CERAMIC CHIP 0.1µF 10% 50V	
C1465	1-115-339-11	CERAMIC CHIP 0.1µF 10% 50V	
C1466	1-115-339-11	CERAMIC CHIP 0.1µF 10% 50V	
C1467	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1468	1-101-810-00	CERAMIC 100PF 5% 500V	
C1469	1-163-021-91	CERAMIC CHIP 0.01µF 10% 50V	
C1471	1-163-009-11	CERAMIC CHIP 0.001µF 10% 50V	
C1475	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1476	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1477	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1478	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1479	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1481	1-163-009-11	CERAMIC CHIP 0.001µF 10% 50V	
C1483	1-163-259-91	CERAMIC CHIP 220PF 5% 50V	
C1484	1-163-229-11	CERAMIC CHIP 12PF 5% 50V	
C1485	1-163-229-11	CERAMIC CHIP 12PF 5% 50V	
C1486	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C1487	1-163-009-11	CERAMIC CHIP 0.001µF 10% 50V	
C1488	1-163-235-11	CERAMIC CHIP 22PF 5% 50V	
C1601	⚠ 1-801-267-11	VARISTOR TNR10V 431K 660	
		<CONNECTOR>	
CN051	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN052	* 1-770-747-11	CONNECTOR, BOARD TO BOARD 12P	
CN201	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN351	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN401	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN402	* 1-564-510-11	PLUG, CONNECTOR 7P (except SSM-14N5A/E/U, 20N5A/E/U)	
CN403	* 1-564-510-11	PLUG, CONNECTOR 7P (except PVM-14N5A/E/U, 14N5MDE, 20N5A/E/U)	
CN501	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
CN502	* 1-508-768-00	PIN, CONNECTOR (5mm PITCH) 6P	
CN601	* 1-580-843-11	PIN, CONNECTOR (POWER)	
CN602	* 1-508-765-00	PIN, CONNECTOR (5mm PITCH) 3P	
CN651	1-695-915-11	TAB (CONTACT)	
		<COMPOSITION CIRCUIT BLOCK>	
CP301	1-467-554-21	FILTER BLOCK, COMB	
		<DIODE>	
D001	8-719-914-43	DIODE DAN202K	
D002	8-719-914-43	DIODE DAN202K	
D003	8-719-914-43	DIODE DAN202K	
D004	8-719-914-43	DIODE DAN202K	
D005	8-719-914-43	DIODE DAN202K	
D101	8-719-914-43	DIODE DAN202K	
D102	⚠ 8-719-983-38	DIODE MTZJ-T-77-36B	
D103	8-719-302-43	DIODE EL1Z	
D201	8-719-947-26	DIODE MTZJ-T-72-6.2C	
D301	8-719-109-85	DIODE RD5.1ESB2	
D302	8-719-302-43	DIODE EL1Z	
D351	8-719-914-43	DIODE DAN202K	
D352	8-719-914-43	DIODE DAN202K	
D353	8-719-914-43	DIODE DAN202K	
D501	8-719-945-80	DIODE ERC06-15S	
D502	8-719-979-85	DIODE EGP20G	
D503	8-719-908-03	DIODE GP08D	
D504	8-719-908-03	DIODE GP08D	
D506	8-719-302-43	DIODE EL1Z	
D507	8-719-302-43	DIODE EL1Z	
D508	8-719-302-43	DIODE EL1Z	
D509	8-719-028-72	DIODE RGP02-17EL-6433	
D510	1-249-377-11	CARBON 0.47 5% 1/4W F	
D511	8-719-914-43	DIODE DAN202K	
D551	8-719-908-03	DIODE GP08D	
D552	8-719-109-85	DIODE RD5.1ESB2	
D601	⚠ 8-719-025-88	DIODE GBU4JL-6088	
D605	8-719-302-43	DIODE EL1Z	
D606	8-719-921-63	DIODE MTZJ-7.5B	
D607	8-719-302-43	DIODE EL1Z	
D609	8-719-302-43	DIODE EL1Z	
D610	8-719-302-43	DIODE EL1Z	
D611	8-719-991-33	DIODE 1SS133T-77	
D651	8-719-312-10	DIODE RU4AM-T3	
D653	8-719-045-48	DIODE FML-G12S	
D656	8-719-046-66	DIODE SLR-56MC3F	
		<FUSE>	
F601	⚠ 1-576-231-11	FUSE (H.B.C.) (4A/250V)	
F602	⚠ 1-576-231-11	FUSE (4A/250V) (PVM-14N5MDE)	
F651	⚠ 1-532-745-11	FUSE, GLASS TUBE (3.15A/125V)	
		<FERRITE BEAD>	
FB001	1-410-397-21	FERRITE 1.1µH	
FB601	1-410-396-41	FERRITE 0.45µH	
FB602	1-410-396-41	FERRITE 0.45µH	
FB603	1-410-396-41	FERRITE 0.45µH	
JW390	1-543-840-11	FERRITE 0µH	
		<IC>	
IC001	8-752-895-94	IC CXP85116B-670S	
IC002	8-759-527-68	IC M24C01-BN6	
IC003	8-759-279-41	IC MM1096BD	
IC201	8-759-324-57	IC TDA7052A	
IC301	8-752-088-38	IC CXA2060BS	
IC401	8-759-000-48	IC MC14052BCP (except SSM-14N5A/E/U, 20N5A/E/U)	
IC402	8-759-984-96	IC BA7604N (except SSM-14N5A/E/U, 20N5A/E/U)	
IC551	8-759-192-71	IC STV9379	
IC552	8-759-145-58	IC µPC4558C	
IC601	8-749-010-84	IC STR-S6708	
IC651	8-749-921-89	IC SE115N	

A

Ref.No.	Part No.	Description	Remark
IC652	8-759-231-53	IC TA7805S	
IC654	8-759-701-59	IC NJM78M09FA	
		<CHIP CONDUCTOR>	
JR001	1-216-295-91	SHORT 0	
JR002	1-216-295-91	SHORT 0	
JR003	1-216-295-91	SHORT 0	
JR004	1-216-295-91	SHORT 0	
JR005	1-216-295-91	SHORT 0	
JR006	1-216-295-91	SHORT 0	
JR007	1-216-295-91	SHORT 0	
JR008	1-216-295-91	SHORT 0	
JR009	1-216-295-91	SHORT 0	
JR010	1-216-295-91	SHORT 0	
		<COIL>	
L001	1-408-603-31	INDUCTOR 10µH	
L101	1-421-465-00	COIL, FERRITE CHOKE 68µH	
L501	1-421-465-00	COIL, FERRITE CHOKE 68µH	
L502	⚠ 1-459-105-21	COIL 2.7µH	
L503	1-412-553-11	INDUCTOR 3.3mH	
L504	1-459-104-00	COIL, WITH CORE	
L505	⚠ 1-459-760-13	COIL, HORIZONTAL LINEARITY	(14inch model)
L505	⚠ 1-459-769-13	COIL, HORIZONTAL LINEARITY	(20inch model)
L510	1-407-365-00	COIL,CHOKE	
L551	1-459-104-00	COIL, WITH CORE	
L601	1-411-541-11	COIL, CHOKE 7.2µH	
		<PHOTO COUPLER>	
PH601	8-749-923-50	PHOTO COUPLER PC111YS	
		<TRANSISTOR>	
Q004	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q005	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q101	8-729-200-17	TRANSISTOR 2SA1091-O	
Q102	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q201	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q351	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q352	8-729-026-48	TRANSISTOR 2SA1037AK-T146-Q	
Q353	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q354	8-729-026-48	TRANSISTOR 2SA1037AK-T146-Q	
Q355	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q356	8-729-026-48	TRANSISTOR 2SA1037AK-T146-Q	
Q357	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q358	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q359	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q360	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q361	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q362	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q363	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q364	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q365	8-729-026-48	TRANSISTOR 2SA1037AK-T146-Q	
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q404	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q405	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q501	8-729-810-49	TRANSISTOR 2SD1877S-SONY-CA	(14inch model)
Q501	8-729-821-87	TRANSISTOR 2SD1878-CA	(20inch model)
Q502	8-729-140-50	TRANSISTOR 2SC3209LK	
Q551	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q601	8-729-025-04	TRANSISTOR 2SC3852A	
		<RESISTOR>	
R001	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R002	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R003	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R004	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R005	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R006	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R007	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R008	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R009	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R010	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R011	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R012	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R013	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R014	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R015	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R016	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R017	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R018	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R019	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R020	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R021	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R022	1-216-025-00	RES,CHIP 100 5% 1/10W	
R023	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R024	1-249-393-11	CARBON 10 5% 1/4W	(PVM-14N5MDE)
R025	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R027	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R028	1-249-393-11	CARBON 10 5% 1/4W	(20inch model)
R029	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R030	1-249-393-11	CARBON 10 5% 1/4W	(PVM-14N6A/E/U, 20N6A/E/U)
R031	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R032	1-249-393-11	CARBON 10 5% 1/4W	(except SSM-14N5A/E/U, 20N5A/E/U)
R033	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R035	1-216-295-91	SHORT 0	
R036	1-216-025-91	RES,CHIP 100 5% 1/10W	
R037	1-216-025-91	RES,CHIP 100 5% 1/10W	
R038	1-216-025-91	RES,CHIP 100 5% 1/10W	
R039	1-216-025-91	RES,CHIP 100 5% 1/10W	
R040	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R041	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R042	1-216-025-00	RES,CHIP 100 5% 1/10W	

Ref.No.	Part No.	Description		Remark
R043	1-216-025-00	RES,CHIP	100	5% 1/10W
R044	1-216-073-00	RES,CHIP	10K	5% 1/10W
R045	1-216-049-91	RES,CHIP	1K	5% 1/10W
R057	1-216-073-00	RES,CHIP	10K	5% 1/10W
R058	1-216-073-00	RES,CHIP	10K	5% 1/10W
				(20inch model)
R059	1-216-073-00	RES,CHIP	10K	5% 1/10W
R060	1-216-073-00	RES,CHIP	10K	5% 1/10W
R101	1-216-390-11	METAL OXIDE		1.25%3W F
				(20inch model)
R101	1-216-391-11	METAL OXIDE	1.5	5% 3W F
				(14inch model)
R102	1-216-667-11	METAL CHIP	4.7K	0.50%1/10W
R103	1-216-115-00	RES,CHIP	560K	5% 1/10W
R104	1-218-754-11	METAL CHIP	120K	0.50%1/10W
R105	1-218-756-11	METAL CHIP	150K	0.50%1/10W
R106	1-216-097-91	RES,CHIP	100K	5% 1/10W
R107	1-216-097-91	RES,CHIP	100K	5% 1/10W
R108	⚠ 1-218-756-91	METAL CHIP	150K	0.50%1/10W
				(20inch model)
R108	⚠ 1-218-758-91	METAL CHIP	180K	0.50%1/10W
				(14inch model)
R110	⚠ 1-218-768-91	METAL CHIP	470K	0.50%1/10W
				(14inch model)
R110	⚠ 1-218-769-91	METAL CHIP	510K	0.50%1/10W
				(20inch model)
R201	1-216-093-00	RES,CHIP	68K	5% 1/10W
R202	1-216-069-00	RES,CHIP	6.8K	5% 1/10W
R203	1-216-049-91	RES,CHIP	1K	5% 1/10W
R204	1-215-907-11	METAL OXIDE	22	5% 3W F
R205	1-216-056-00	RES,CHIP	2K	5% 1/10W
R207	1-216-055-00	RES,CHIP	1.8K	5% 1/10W
R208	1-216-065-00	RES,CHIP	4.7K	5% 1/10W
R209	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R210	1-216-073-00	RES,CHIP	10K	5% 1/10W
R211	1-216-073-00	RES,CHIP	10K	5% 1/10W
R301	1-216-025-91	RES,CHIP	100	5% 1/10W
R302	1-216-675-11	METAL CHIP	10K	0.50%1/10W
R303	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R304	1-216-081-00	RES,CHIP	22K	5% 1/10W
R305	1-216-001-00	RES,CHIP	10	5% 1/10W
R306	1-216-001-00	RES,CHIP	10	5% 1/10W
R307	1-216-057-00	RES,CHIP	2.2K	5% 1/10W
R308	1-216-651-11	METAL CHIP	1K	0.50%1/10W
R309	1-216-671-11	METAL CHIP	6.8K	0.50%1/10W
R310	1-216-651-11	METAL CHIP	1K	0.50%1/10W
R311	1-216-671-11	METAL CHIP	6.8K	0.50%1/10W
R312	1-216-651-11	METAL CHIP	1K	0.50%1/10W
R313	1-216-671-11	METAL CHIP	6.8K	0.50%1/10W
R314	1-216-001-00	RES,CHIP	10	5% 1/10W
R315	1-216-001-00	RES,CHIP	10	5% 1/10W
R316	1-216-001-00	RES,CHIP	10	5% 1/10W
R317	1-216-073-00	RES,CHIP	10K	5% 1/10W
R318	1-216-049-91	RES,CHIP	1K	5% 1/10W
R319	1-216-051-00	RES,CHIP	1.2K	5% 1/10W
R320	1-216-051-00	RES,CHIP	1.2K	5% 1/10W
R321	1-216-073-00	RES,CHIP	10K	5% 1/10W
R322	1-216-073-00	RES,CHIP	10K	5% 1/10W
R323	1-216-067-00	RES,CHIP	5.6K	5% 1/10W
R324	1-202-826-00	SOLID	4.7K	10% 1/2W
R325	1-216-071-00	RES,CHIP	8.2K	5% 1/10W
				(20inch model)

Ref.No.	Part No.	Description		Remark
R325	1-216-075-00	RES,CHIP	12K	5% 1/10W
				(14inch model)
R326	1-216-059-00	RES,CHIP	2.7K	5% 1/10W
				(20inch model)
R326	1-216-063-91	RES,CHIP	3.9K	5% 1/10W
				(14inch model)
R327	1-216-097-91	RES,CHIP	100K	5% 1/10W
R328	1-216-073-00	RES,CHIP	10K	5% 1/10W
R329	1-216-001-00	RES,CHIP	10	5% 1/10W
R330	1-216-025-91	RES,CHIP	100	5% 1/10W
R331	1-216-033-00	RES, CHIP	220	5% 1/10W
R332	1-216-073-00	RES,CHIP	10K	5% 1/10W
R333	1-216-025-91	RES,CHIP	100	5% 1/10W
R351	1-216-670-11	METAL CHIP	6.2K	0.50%1/10W
				(14inch model)
R351	1-216-679-11	METAL CHIP	15K	0.50%1/10W
				(20inch model)
R352	1-216-049-91	RES,CHIP	1K	5% 1/10W
R353	1-249-393-11	CARBON	10	5% 1/4W
R354	1-249-393-11	CARBON	10	5% 1/4W
R355	1-249-393-11	CARBON	10	5% 1/4W
R356	1-216-059-00	RES,CHIP	2.7K	5% 1/10W
R357	1-216-638-11	METAL CHIP	300	0.50%1/10W
				(20inch model)
R357	1-216-641-11	METAL CHIP	390	0.50%1/10W
				(14inch model)
R358	1-216-017-91	RES,CHIP	47	5% 1/10W
R360	1-216-059-00	RES,CHIP	2.7K	5% 1/10W
R361	1-216-638-11	METAL CHIP	300	0.50%1/10W
				(20inch model)
R361	1-216-641-11	METAL CHIP	390	0.50%1/10W
				(14inch model)
R362	1-216-017-91	RES,CHIP	47	5% 1/10W
R364	1-216-059-00	RES,CHIP	2.7K	5% 1/10W
R365	1-216-638-11	METAL CHIP	300	0.50%1/10W
				(20inch model)
R365	1-216-641-11	METAL CHIP	390	0.50%1/10W
				(14inch model)
R366	1-216-017-91	RES,CHIP	47	5% 1/10W
R368	1-216-073-00	RES,CHIP	10K	5% 1/10W
R369	1-216-073-00	RES,CHIP	10K	5% 1/10W
R370	1-216-073-00	RES,CHIP	10K	5% 1/10W
R371	1-216-073-00	RES,CHIP	10K	5% 1/10W
R372	1-216-073-00	RES,CHIP	10K	5% 1/10W
R373	1-216-073-00	RES,CHIP	10K	5% 1/10W
R374	1-216-073-00	RES,CHIP	10K	5% 1/10W
R375	1-249-429-11	CARBON	10K	5% 1/4W
R376	1-216-073-00	RES,CHIP	10K	5% 1/10W
R377	1-216-049-91	RES,CHIP	1K	5% 1/10W
R378	1-215-437-00	METAL	4.7K	1% 1/4W
				(20inch model)
R378	1-215-440-00	METAL	6.2K	1% 1/4W
				(14inch model)
R379	1-249-429-11	CARBON	10K	5% 1/4W
R380	1-216-073-00	RES,CHIP	10K	5% 1/10W
R381	1-216-049-91	RES,CHIP	1K	5% 1/10W
R382	1-215-435-00	METAL	3.9K	1% 1/4W
				(20inch model)
R382	1-215-438-00	METAL	5.1K	1% 1/4W
				(14inch model)
R383	1-216-073-00	RES,CHIP	10K	5% 1/10W

A

Ref.No.	Part No.	Description		Remark
R384	1-216-073-00	RES,CHIP	10K	5% 1/10W
R385	1-216-049-91	RES,CHIP	1K	5% 1/10W
R386	1-215-433-00	METAL	3.3K	1% 1/4W (20inch model)
R386	1-215-436-00	METAL	4.3K	1% 1/4W (14inch model)
R387	1-216-073-00	RES,CHIP	10K	5% 1/10W
R388	1-216-073-00	RES,CHIP	10K	5% 1/10W
R389	1-216-049-91	RES,CHIP	1K	5% 1/10W
R390	1-216-663-11	METAL CHIP	3.3K	0.50% 1/10W (20inch model)
R390	1-216-664-11	METAL CHIP	3.6K	0.50% 1/10W (14inch model)
R391	1-216-664-11	METAL CHIP	3.6K	0.50% 1/10W (14inch model)
R391	1-216-665-11	METAL CHIP	3.9K	0.50% 1/10W (20inch model)
R392	1-216-664-11	METAL CHIP	3.6K	0.50% 1/10W (14inch model)
R392	1-216-667-11	METAL CHIP	4.7K	0.50% 1/10W (20inch model)
R393	1-216-001-00	RES,CHIP	10	5% 1/10W
R394	1-216-001-00	RES,CHIP	10	5% 1/10W
R395	1-216-683-11	METAL CHIP	22K	0.50% 1/10W (14inch model)
R395	1-216-691-11	METAL CHIP	47K	0.50% 1/10W (20inch model)
R401	1-216-049-91	RES,CHIP	1K	5% 1/10W
R402	1-216-049-91	RES,CHIP	1K	5% 1/10W
R403	1-216-049-91	RES,CHIP	1K	5% 1/10W
R404	1-216-049-91	RES,CHIP	1K	5% 1/10W
R405	1-216-049-91	RES,CHIP	1K	5% 1/10W
R406	1-216-073-00	RES,CHIP	10K	5% 1/10W
R501	1-216-063-91	RES,CHIP	3.9K	5% 1/10W
R502	1-216-071-00	RES,CHIP	8.2K	5% 1/10W
R503	1-215-895-11	METAL OXIDE	3.3K	5% 2W F (20inch model)
R503	1-215-896-00	METAL OXIDE	4.7K	5% 2W F (14inch model)
R506	1-260-326-11	CARBON	680	5% 1/2W
R507	1-216-423-11	METAL OXIDE	27	5% 1W F
R508	1-215-860-11	METAL OXIDE	33	5% 1W F (20inch model)
R508	1-215-862-11	METAL OXIDE	68	5% 1W F (14inch model)
R513	1-247-887-00	CARBON	220K	5% 1/4W
R514	1-249-419-11	CARBON	1.5K	5% 1/4W F
R551	1-216-429-00	METAL OXIDE	270	5% 1W F
R552	1-216-349-00	METAL OXIDE	1	5% 1W F
R553	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R554	1-216-684-91	METAL CHIP	24K	0.50% 1/10W (20inch model)
R554	1-216-686-11	METAL CHIP	30K	0.50% 1/10W (14inch model)
R556	1-244-805-91	CARBON	1.5	5% 1/2W
R557	1-216-684-91	METAL CHIP	24K	0.50% 1/10W (20inch model)
R557	1-216-686-11	METAL CHIP	30K	0.50% 1/10W (14inch model)
R558	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R559	1-216-063-91	RES,CHIP	3.9K	5% 1/10W (20inch model)
R559	1-216-077-00	RES, CHIP	15K	5% 1/10W (14inch model)
R560	1-216-097-91	RES,CHIP	100K	5% 1/10W (20inch model)
R560	1-216-105-91	RES, CHIP	220K	5% 1/10W (14inch model)
R561	1-249-392-11	CARBON	8.2	5% 1/4W F (20inch model)
R561	1-532-727-11	LINK, IC (0.25A/150V)		(14inch model)
R562	1-216-670-11	METAL CHIP	6.2K	0.50% 1/10W (14inch model)
R562	1-216-675-11	METAL CHIP	10K	0.50% 1/10W (20inch model)
R563	1-216-675-11	METAL CHIP	10K	0.50% 1/10W
R564	1-216-061-00	RES,CHIP	3.3K	5% 1/10W
R565	1-216-049-91	RES,CHIP	1K	5% 1/10W
R569	1-216-113-00	RES,CHIP	470K	5% 1/10W
R570	1-216-421-11	METAL OXIDE	12	5% 1W F (20inch model)
R570	1-216-422-11	METAL OXIDE	18	5% 1W F (14inch model)
R571	1-216-049-91	RES,CHIP	1K	5% 1/10W
R601	⚠ 1-202-885-91	SOLID	1M	20% 1/2W
R602	1-216-490-11	METAL OXIDE	39K	5% 3W F
R604	1-215-877-11	METAL OXIDE	22K	5% 1W F
R605	1-215-869-11	METAL OXIDE	1K	5% 1W F
R606	1-249-421-11	CARBON	2.2K	5% 1/4W
R607	1-249-417-11	CARBON	1K	5% 1/4W
R608	1-217-241-00	WIREWOUND	0.22	10% 3W F
R609	1-247-807-31	CARBON	100	5% 1/4W
R610	1-216-471-11	METAL OXIDE	27	5% 3W F
R611	1-249-417-11	CARBON	1K	5% 1/4W
R612	⚠ 1-205-998-11	CEMENTED	1	5% 10W (20inch model)
R612	⚠ 1-220-820-31	CEMENTED	1.5	5% 10W (14inch model)
R613	1-249-426-11	CARBON	5.6K	5% 1/4W
R614	⚠ 1-202-725-91	SOLID	3.3M	10% 1/2W
R615	⚠ 1-202-725-91	SOLID	3.3M	10% 1/2W
R616	⚠ 1-205-998-11	CEMENTED	1	5% 10W (20inch model)
R616	⚠ 1-220-820-31	CEMENTED	1.5	5% 10W (14inch model)
R622	1-249-424-11	CARBON	3.9K	5% 1/4W
R623	1-216-490-11	METAL OXIDE	39K	5% 3W F
R657	1-249-417-11	CARBON	1K	5% 1/4W
R1201	1-215-907-11	METAL OXIDE	22	5% 3W F
R1401	1-216-073-00	RES,CHIP	10K	5% 1/10W
R1402	1-216-025-91	RES,CHIP	100	5% 1/10W
R1403	1-216-025-91	RES,CHIP	100	5% 1/10W
R1404	1-216-025-91	RES,CHIP	100	5% 1/10W
R1405	1-216-025-91	RES,CHIP	100	5% 1/10W
R1406	1-216-027-00	RES,CHIP	120	5% 1/10W
R1407	1-216-027-00	RES,CHIP	120	5% 1/10W
R1408	1-216-027-00	RES,CHIP	120	5% 1/10W
R1409	1-216-027-00	RES,CHIP	120	5% 1/10W
R1410	1-216-027-00	RES,CHIP	120	5% 1/10W
R1411	1-216-027-00	RES,CHIP	120	5% 1/10W
R1412	1-247-807-31	CARBON	100	5% 1/4W
R1414	1-216-001-00	RES,CHIP	10	5% 1/10W

Ref.No.	Part No.	Description			Remark
R1415	1-216-025-91	RES,CHIP	100	5%	1/10W
R1416	1-216-025-91	RES,CHIP	100	5%	1/10W
R1417	1-216-025-91	RES,CHIP	100	5%	1/10W
R1418	1-216-025-91	RES,CHIP	100	5%	1/10W
R1419	1-216-025-91	RES,CHIP	100	5%	1/10W
R1420	1-216-025-91	RES,CHIP	100	5%	1/10W
R1421	1-216-025-91	RES,CHIP	100	5%	1/10W
		<SWITCH>			
S001	1-571-532-21	SWITCH, TACTIL			
S002	1-571-532-21	SWITCH, TACTIL			
S003	1-571-532-21	SWITCH, TACTIL			
S004	1-571-532-21	SWITCH, TACTIL			
S006	1-571-532-21	SWITCH, TACTIL			(PVM-14N6A/E/U, 20N6A/E/U)
S007	1-571-532-21	SWITCH, TACTIL			(except SSM-14N5A/E/U, 20N5A/E/U)
S008	1-571-532-21	SWITCH, TACTIL			(except SSM-14N5A/E/U, 20N5A/E/U)
S501	1-554-186-00	SWITCH, LEVER			
S601	⚠ 1-571-433-31	SWITCH, PUSH (AC POWER)			
		<SPARK GAP>			
SG501	1-519-422-11	GAP, SPARK			
		<TRANSFORMER>			
T501	⚠ 1-453-277-11	TRANSFORMER ASSY, FLYBACK			(NX-4008//U2A4) (20inch model)
T501	⚠ 1-453-278-11	TRANSFORMER ASSY, FLYBACK			(NX-4301//U2A4) (14inch model)
T502	1-437-090-31	HDT			
T601	1-429-265-11	TRANSFORMER, CONVERTER (SRT)			
T603	⚠ 1-429-482-11	TRANSFORMER, LINE FILTER			
		<THERMISTOR>			
THP601	⚠ 1-808-059-32	THERMISTOR, POSITIVE			
		<CRYSTAL>			
X001	1-567-781-11	VIBRATOR, CRYSTAL			
X301	1-567-504-11	OSCILLATOR, CRYSTAL			
X302	1-567-505-11	OSCILLATOR, CRYSTAL			

****

*	A-1331-827-A	CA BOARD, COMPLETE			
		**********			(14inch model)
*	4-374-912-01	COVER (MAIN), CV VOL			
*	4-374-913-01	COVER (REAR LID), CV VOL			
		<CAPACITOR>			
C709	1-136-601-11	FILM	0.01µF	10% 630V	
C710	1-102-002-00	CERAMIC	680PF	10% 500V	
C711	1-102-002-00	CERAMIC	680PF	10% 500V	
C712	1-102-002-00	CERAMIC	680PF	10% 500V	
C716	1-126-940-11	ELECT	330µF	20% 25V	
C721	1-107-667-11	ELECT	2.2µF	20% 400V	
C723	1-162-116-00	CERAMIC	680PF	10% 2KV	
C724	⚠ 1-102-959-91	CERAMIC	22PF	5% 50V	
		<CONNECTOR>			
CN701	* 1-508-768-00	PIN, CONNECTOR (5mm PITCH) 6P			
CN702	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN703	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D710	8-719-991-33	DIODE 1SS133T-77			
D711	8-719-991-33	DIODE 1SS133T-77			
D712	8-719-991-33	DIODE 1SS133T-77			
D713	8-719-991-33	DIODE 1SS133T-77			
D714	8-719-991-33	DIODE 1SS133T-77			
D715	8-719-991-33	DIODE 1SS133T-77			
D716	8-719-991-33	DIODE 1SS133T-77			
		<JACK>			
J701	⚠ 1-526-819-11	SOCKET, PICTURE TUBE			
		<COIL>			
L701	1-410-671-31	INDUCTOR 47µH			
		<TRANSISTOR>			
Q701	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q710	8-729-200-17	TRANSISTOR 2SA1091-O			
Q711	8-729-200-17	TRANSISTOR 2SA1091-O			
Q712	8-729-200-17	TRANSISTOR 2SA1091-O			
Q713	8-729-906-70	TRANSISTOR BF871-127			
Q714	8-729-906-70	TRANSISTOR BF871-127			
Q715	8-729-906-70	TRANSISTOR BF871-127			
		<RESISTOR>			
R701	1-202-846-00	SOLID	470K	20% 1/2W	
R702	1-202-846-00	SOLID	470K	20% 1/2W	
R703	1-202-719-00	SOLID	1M	20% 1/2W	
R704	1-202-838-00	SOLID	100K	20% 1/2W	
R705	1-202-842-11	SOLID	220K	20% 1/2W	
R706	1-202-818-00	SOLID	1K	20% 1/2W	
R707	1-202-818-00	SOLID	1K	20% 1/2W	
R708	1-202-818-00	SOLID	1K	20% 1/2W	
R715	1-247-807-31	CARBON	100	5% 1/4W	
R716	1-247-807-31	CARBON	100	5% 1/4W	
R717	1-247-807-31	CARBON	100	5% 1/4W	
R722	1-216-372-11	METAL OXIDE	1.8	5% 2W	F
R723	1-216-487-11	METAL OXIDE	12K	5% 3W	F
R724	1-216-487-11	METAL OXIDE	12K	5% 3W	F
R725	1-216-487-11	METAL OXIDE	12K	5% 3W	F

CA CB

Ref.No.	Part No.	Description			Remark
R730	1-249-409-11	CARBON	220	5%	1/4W F
R731	1-247-903-00	CARBON	1M	5%	1/4W
R732	⚠ 1-202-549-81	SOLID	100	20%	1/2W
R751	1-249-412-11	CARBON	390	5%	1/4W
R752	1-249-412-11	CARBON	390	5%	1/4W
R753	1-249-412-11	CARBON	390	5%	1/4W
		<VARIABLE RESISTOR>			
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M			
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M			
RV703	1-230-798-11	RES, ADJ, METAL GLAZE 90M			

****

* A-1331-828-A CB BOARD, COMPLETE
****
(20inch model)

		<CAPACITOR>			
C709	1-136-601-11	FILM	0.01µF	10%	630V
C710	1-102-002-00	CERAMIC	680PF	10%	500V
C711	1-102-002-00	CERAMIC	680PF	10%	500V
C712	1-102-002-00	CERAMIC	680PF	10%	500V
C716	1-126-940-11	ELECT	330µF	20%	25V
C721	1-107-667-11	ELECT	2.2µF	20%	400V
C723	1-162-116-00	CERAMIC	680PF	10%	2KV
C724	⚠ 1-102-959-91	CERAMIC	22PF	5%	50V
		<CONNECTOR>			
CN701	* 1-508-768-00	PIN, CONNECTOR (5mm PITCH) 6P			
CN702	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN703	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D710	8-719-991-33	DIODE 1SS133T-77			
D711	8-719-991-33	DIODE 1SS133T-77			
D712	8-719-991-33	DIODE 1SS133T-77			
D713	8-719-991-33	DIODE 1SS133T-77			
D714	8-719-991-33	DIODE 1SS133T-77			
D715	8-719-991-33	DIODE 1SS133T-77			
D716	8-719-991-33	DIODE 1SS133T-77			
		<JACK>			
J702	⚠ 1-540-124-21	SOCKET, PICTURE TUBE			
		<COIL>			
L701	1-410-478-11	INDUCTOR 47µH			
		<TRANSISTOR>			
Q710	8-729-200-17	TRANSISTOR 2SA1091-O			
Q711	8-729-200-17	TRANSISTOR 2SA1091-O			
Q712	8-729-200-17	TRANSISTOR 2SA1091-O			
Q713	8-729-906-70	TRANSISTOR BF871-127			
Q714	8-729-906-70	TRANSISTOR BF871-127			
Q715	8-729-906-70	TRANSISTOR BF871-127			
Q731	8-729-119-76	TRANSISTOR 2SA1175-HFE			
		<RESISTOR>			
R701	1-202-846-00	SOLID	470K	20%	1/2W
R702	1-202-838-00	SOLID	100K	20%	1/2W
R703	1-202-838-00	SOLID	100K	20%	1/2W
R705	1-202-842-11	SOLID	220K	20%	1/2W
R706	1-202-818-00	SOLID	1K	20%	1/2W
R707	1-202-818-00	SOLID	1K	20%	1/2W
R708	1-202-818-00	SOLID	1K	20%	1/2W
R715	1-247-807-31	CARBON	100	5%	1/4W
R716	1-247-807-31	CARBON	100	5%	1/4W
R717	1-247-807-31	CARBON	100	5%	1/4W
R722	1-216-412-11	METAL OXIDE	1.8	5%	5W F
R723	1-215-923-00	METAL OXIDE	10K	5%	3W F
R724	1-216-487-11	METAL OXIDE	12K	5%	3W F
R725	1-216-487-11	METAL OXIDE	12K	5%	3W F
R730	1-249-409-11	CARBON	220	5%	1/4W F
R731	1-247-903-00	CARBON	1M	5%	1/4W
R732	⚠ 1-202-549-81	SOLID	100	20%	1/2W
R751	1-249-412-11	CARBON	390	5%	1/4W
R752	1-249-412-11	CARBON	390	5%	1/4W
R753	1-249-412-11	CARBON	390	5%	1/4W
		<VARIABLE RESISTOR>			
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M			
RV703	1-241-714-11	RES, ADJ, METAL FILM 110M			

****

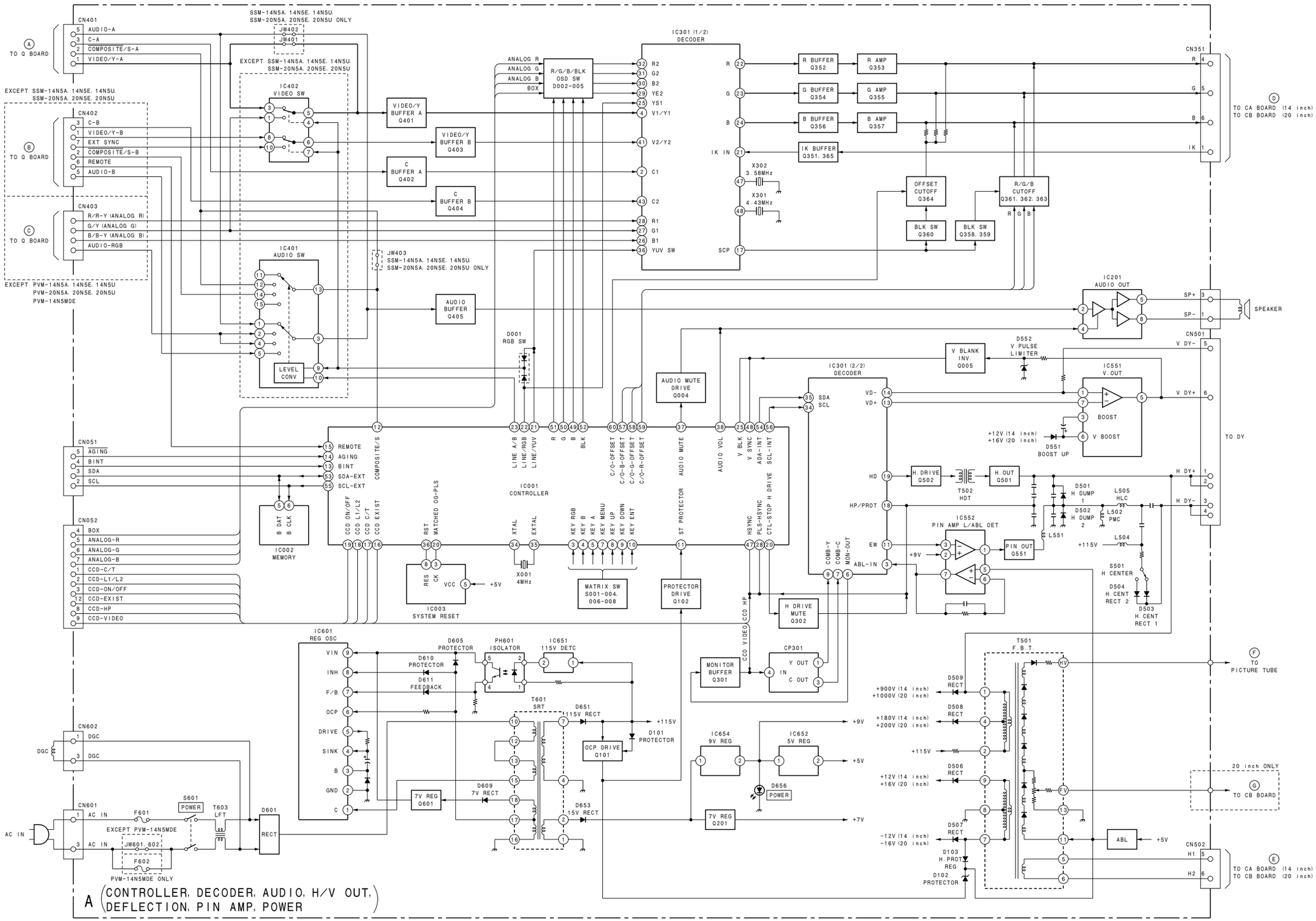
MISCELLANEOUS
****

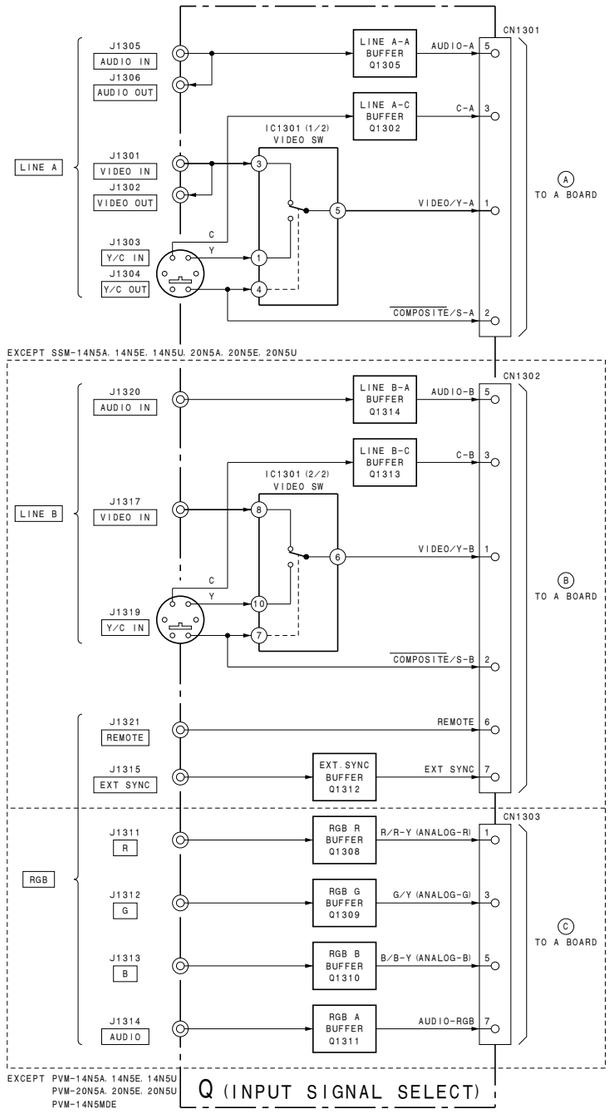
	⚠ 1-251-263-11	INLET, AC
	⚠ 1-411-750-11	COIL, DEMAGNETIC (20inch model)
	⚠ 1-426-442-21	COIL, DEMAGNETIC (14inch model)
	⚠ 1-451-349-12	DEFLECTION YOKE (Y20FZA) (20inch model)
	1-452-032-00	MAGNET, DISC
	1-505-188-11	SPEAKER (4X7CM)
	1-543-653-11	CORE ASSY, BEAD(DIVISION TYPE)
	* 1-900-214-07	WIRE ASSY, SEFETY EARTH
	⚠ 8-451-472-11	DEFLECTION YOKE (Y14MGAT) (14inch model)
V901	⚠ 8-736-135-05	PICTURE TUBE (M49KGH10X) (20inch model)
V901	⚠ 8-738-342-05	PICTURE TUBE (M34KBE10X) (14inch model)

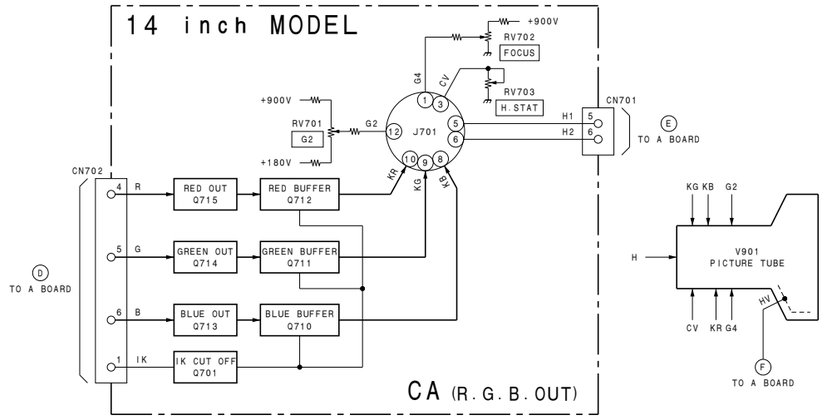
****

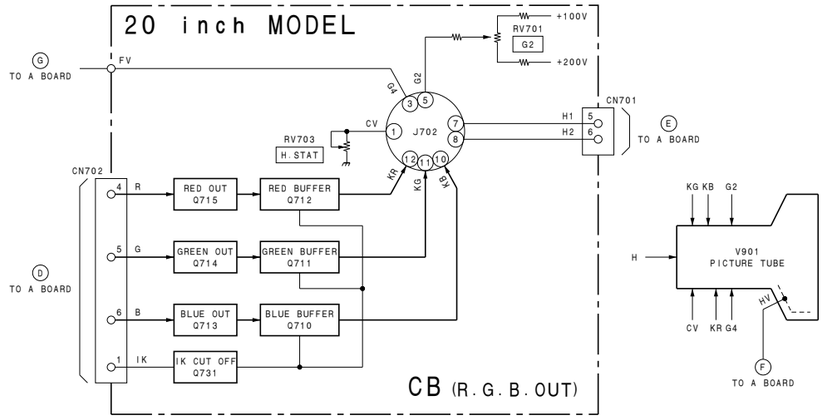
Ref.No.	Part No.	Description	Remark
		ACCESSORIES AND PACKING MATERIALS	
		**********	
⚠	1-534-827-21	CORD, POWER (US/CND model)	
⚠	1-551-631-22	CORD, POWER (PVM-14N5MDE)	
⚠	1-782-929-11	CORD, POWER SUPPLY (BS 3P)	(AEP, AUS model)
	3-864-152-11	MANUAL, INSTRUCTION (SSM-14N5A/E/U, 20N5A/E/U) (ENGLISH, FRENCH,GERMAN, ITALIAN, SPANISH, CHINESE)	
	3-864-157-11	MANUAL, INSTRUCTION (PVM-14N5A/E/U, 14N6A/E/U, PVM-20N5A/E/U, 20N6A/E/U) (ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH, CHINESE)	
	3-864-165-11	MANUAL, INSTRUCTION (PVM-14N5MDE) (ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH, CHINESE)	
	4-048-073-01	COVER, DROP PROTECTION	(PVM-14N5MDE)
*	4-048-606-01	INDIVIDUAL CARTON (14inch model)	
*	4-048-607-01	CUSHION (UPPER) (ASSY) (14inch model)	
*	4-048-608-01	CUSHION (LOWER) (ASSY)	(14inch model)
*	4-048-473-01	INDIVIDUAL CARTON (20inch model)	
*	4-048-474-01	CUSHION UPPER (ASSY) (20inch model)	
*	4-048-475-01	CUSHION LOWER (ASSY) (20inch model)	
*	4-377-015-01	BAG, PROTECTION (14inch model)	
*	4-381-155-01	BAG, PROTECTION (20inch model)	

SECTION 9
BLOCK DIAGRAMS



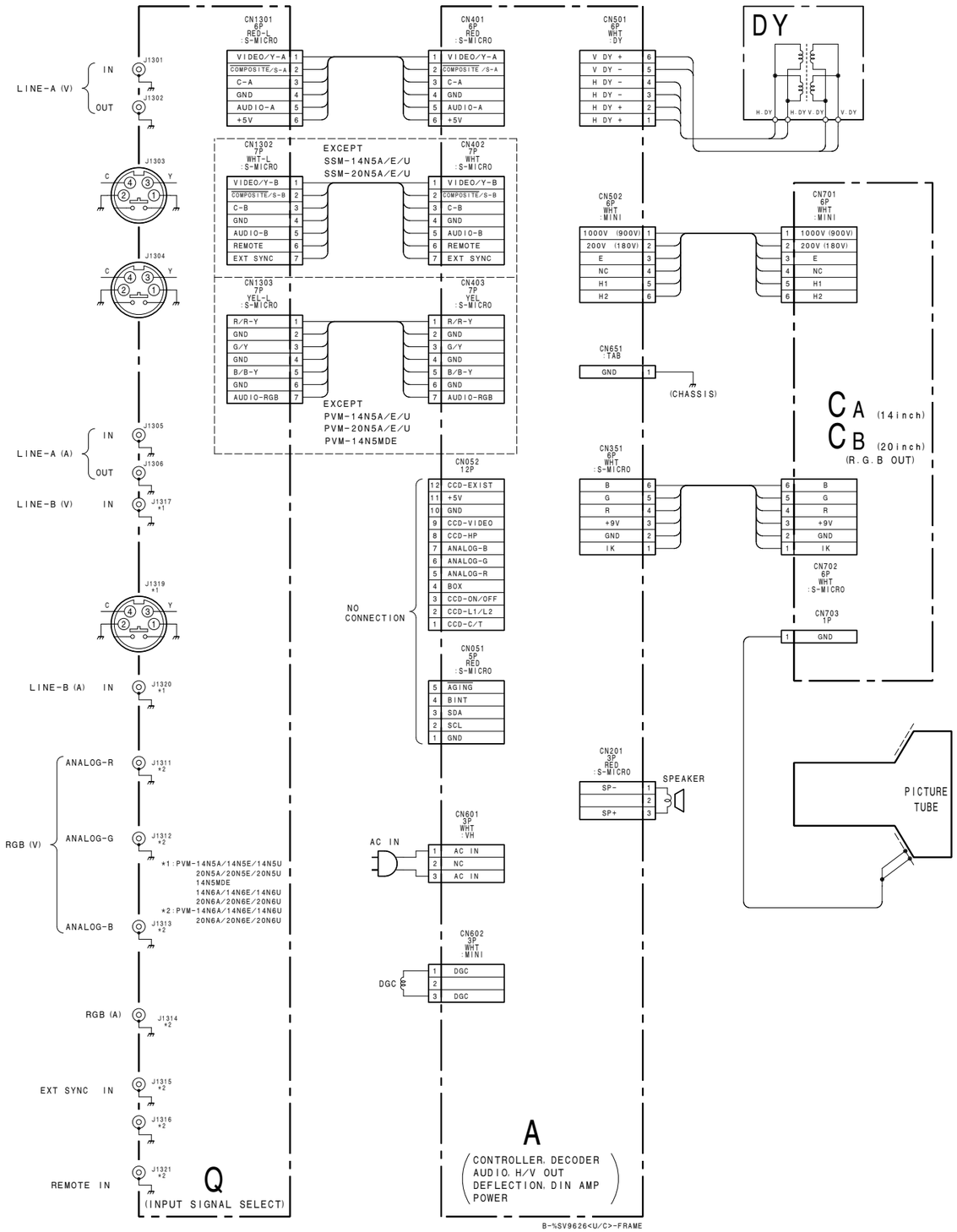

LINE A
J1305
AUDIO IN
J1306
AUDIO OUT
J1301
VIDEO IN
J1302
VIDEO OUT
J1303
Y/C IN
J1304
Y/C OUT
C
Y
IC1301 (1/2)
VIDEO SW
LINE A-A BUFFER Q1305
LINE A-C BUFFER Q1302
AUDIO-A
C-A
VIDEO/Y-A
COMPOSITE/S-A
CN1301
A
TO A BOARD
EXCEPT SSM-14N5A. 14N5E. 14N5U. 20N5A. 20N5E. 20N5U
LINE B
J1320
AUDIO IN
J1317
VIDEO IN
J1319
Y/C IN
IC1301 (2/2)
VIDEO SW
LINE B-A BUFFER Q1314
LINE B-C BUFFER Q1313
AUDIO-B
C-B
VIDEO/Y-B
COMPOSITE/S-B
CN1302
B
TO A BOARD
J1321
REMOTE
J1315
EXT SYNC
REMOTE
EXT SYNC BUFFER Q1312
EXT SYNC
RGB
J1311
R
J1312
G
J1313
B
J1314
AUDIO
RGB R BUFFER Q1308
RGB G BUFFER Q1309
RGB B BUFFER Q1310
RGB A BUFFER Q1311
R/R-Y (ANALOG-R)
G/Y (ANALOG-G)
B/B-Y (ANALOG-B)
AUDIO-RGB
CN1303
C
TO A BOARD
EXCEPT PVM-14N5A. 14N5E. 14N5U
PVM-20N5A. 20N5E. 20N5U
PVM-14N5MDE
Q (INPUT SIGNAL SELECT)


14 inch MODEL
+900V
RV702
FOCUS
RV703
H.STAT
RV701
G2
+180V
+900V
G4
CV
G2
J701
H1
H2
CN701
E
TO A BOARD
CN702
D
TO A BOARD
R
G
B
IK
RED OUT Q715
GREEN OUT Q714
BLUE OUT Q713
IK CUT OFF Q701
RED BUFFER Q712
GREEN BUFFER Q711
BLUE BUFFER Q710
KR
KG
KB
KG KB G2
H
V901
PICTURE TUBE
HV
CV KR G4
F
TO A BOARD
CA (R.G.B.OUT)


20 inch MODEL
G
TO A BOARD
FV
+100V
RV701
G2
+200V
G4
G2
CV
RV703
H.STAT
J702
H1
H2
CN701
E
TO A BOARD
CN702
D
TO A BOARD
R
G
B
IK
RED OUT Q715
GREEN OUT Q714
BLUE OUT Q713
IK CUT OFF Q731
RED BUFFER Q712
GREEN BUFFER Q711
BLUE BUFFER Q710
KR
KG
KB
KG KB G2
H
V901
PICTURE TUBE
HV
CV KR G4
F
TO A BOARD
CB (R.G.B.OUT)

SECTION 10
DIAGRAMS

10-1. FRAME SCHEMATIC DIAGRAMS



10-2. SCHEMATIC DIAGRAMS/PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted.
  PF: 50WV or less are not indicated except for electorlytics.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms, 1/4W in resistance, 1/10w in chip resistance.
  kΩ = 100, MΩ = 1000 kΩ
- : nonflammable resistor.
- △ : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The “4-1. +B Voltage Check” and “4-2. Protection Circuit (Hold-down circuit) Check” should always be performed when replacing the following components (marked ◪ on the schematic diagram).

Parts replaced (◪)
C102, C331, C332, C333, C334, C335, C341, C390, C507, C1454, D102, D103, IC001, IC301, IC552, L505, Q102, R107, R108, R110, R324, R325, R326, R327, R328, R329, R330, T501

- Readings are taken with a color-bar signal input.
  no mark : 20 inch
  ( ) : 14 inch
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform reference.
- : B+ bus.
- : B– bus.
- ⇨ : signal path.

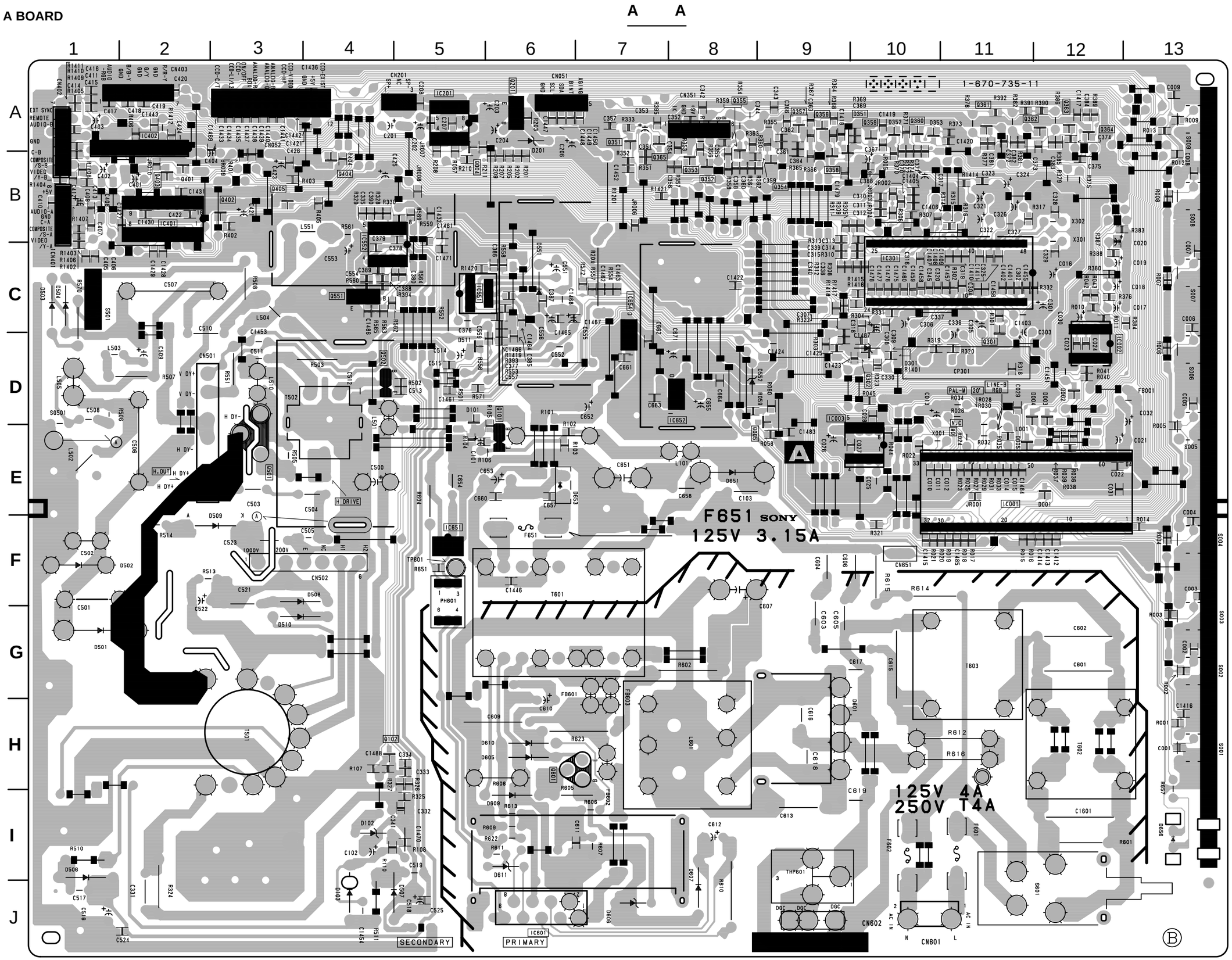
The components identified by mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifies par une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

Reference information

RESISTOR	: RN METAL FILM
	: RC SOLID
	: FPRD NONFLAMMABLE CARBON
	: FUSE NONFLAMMABLE FUSIBLE
	: RS NONFLAMMABLE METAL OXIDE
	: RB NONFLAMMABLE CEMENT
	: RW NONFLAMMABLE WIREWOUND
COIL	: LF-8L MICRO INDUCTOR
CAPACITOR	: TA TANTALUM
	: PS STYROL
	: PP POLYPROPYLENE
	: PT MYLAR
	: MPS METALIZED POLYESTER
	: MPP METALIZED POLYPROPYLENE
	: ALB BIPOLAR
	: ALT HIGH TEMPERATURE
	: ALR HIGH RIPPLE

A BOARD



A -B SIDE-
SUFFIX: -11

SIIA Chassis

A BOARD

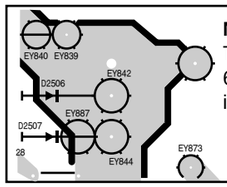
*: B SIDE

IC001 E-11
IC002 D-12
IC003 E-10
IC201 A-5
IC301 C-10
IC401 B-2
IC402 A-2
IC551 C-5
IC552 B-4
IC601 J-6
IC651 F-5
IC652 D-8
IC654 C-7

Q004 *A-5
Q005 *D-9
Q101 D-6
Q102 *H-4
Q201 A-6
Q301 *C-11
Q302 *D-10
Q351 *A-7
Q352 *B-8
Q353 *B-8
Q354 *B-9
Q355 *A-8
Q356 *A-9
Q357 *A-9
Q358 *B-9
Q359 *A-10
Q360 *A-10
Q361 *A-11
Q362 *A-12
Q363 *A-12
Q364 *A-12
Q365 *A-7
Q401 *B-2
Q402 *B-3
Q403 *B-2
Q404 *B-4
Q405 *B-3
Q501 E-3
Q502 D-4
Q551 C-4
Q601 H-6

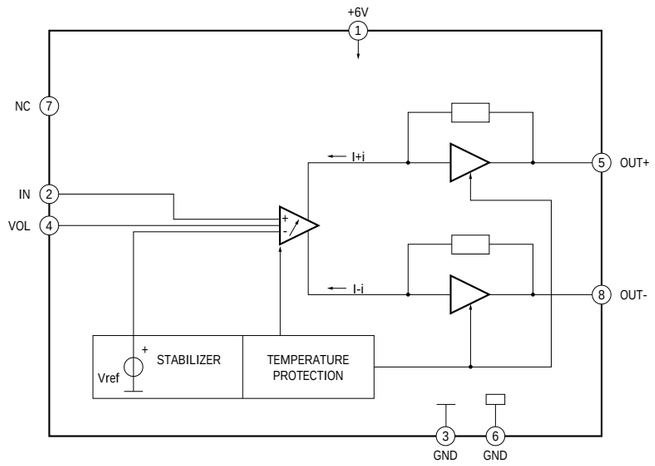
D001 *E-12
D002 *D-12
D003 *D-12
D004 *D-12
D005 *E-11
D101 *D-5
D102 I-4
D103 J-4
D201 A-6
D301 D-10
D302 I-4
D351 *A-10
D352 *A-10
D353 *A-10
D501 G-1
D502 F-1
D503 C-1
D504 C-1
D506 I-1
D507 J-5
D508 F-3
D509 F-3
D511 *D-5
D551 C-6
D552 D-8
D601 H-9
D605 H-6
D606 J-7
D607 I-8
D609 H-6
D610 H-6
D611 I-6
D651 E-8
D653 E-6
D656 I-13

TP601 F-5

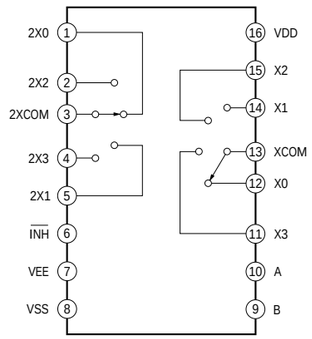


Note :
The circuit indicated as left contains high voltage of over 600 V p-p. Care must be paid to prevent an electric shock in inspection or repairing.

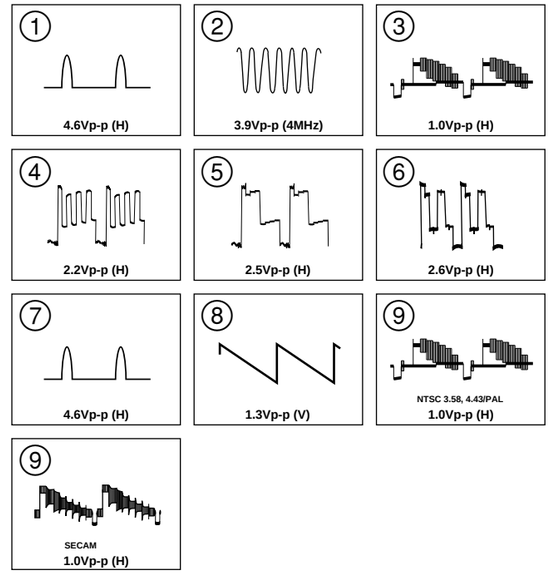
A (1/2) BOARD IC201 TDA7052A



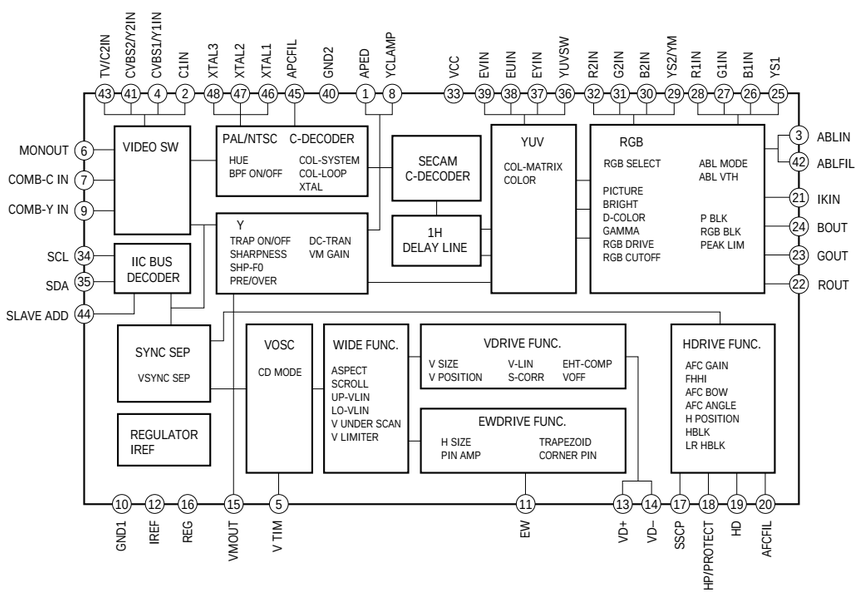
A (1/2) BOARD IC401 MC14052BCP



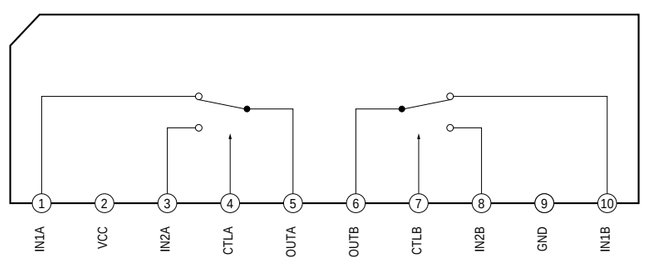
A (1/2) BOARD WAVEFORMS



A (1/2) BOARD IC301 CXA2060BS



A (1/2) BOARD IC402 BA7604N

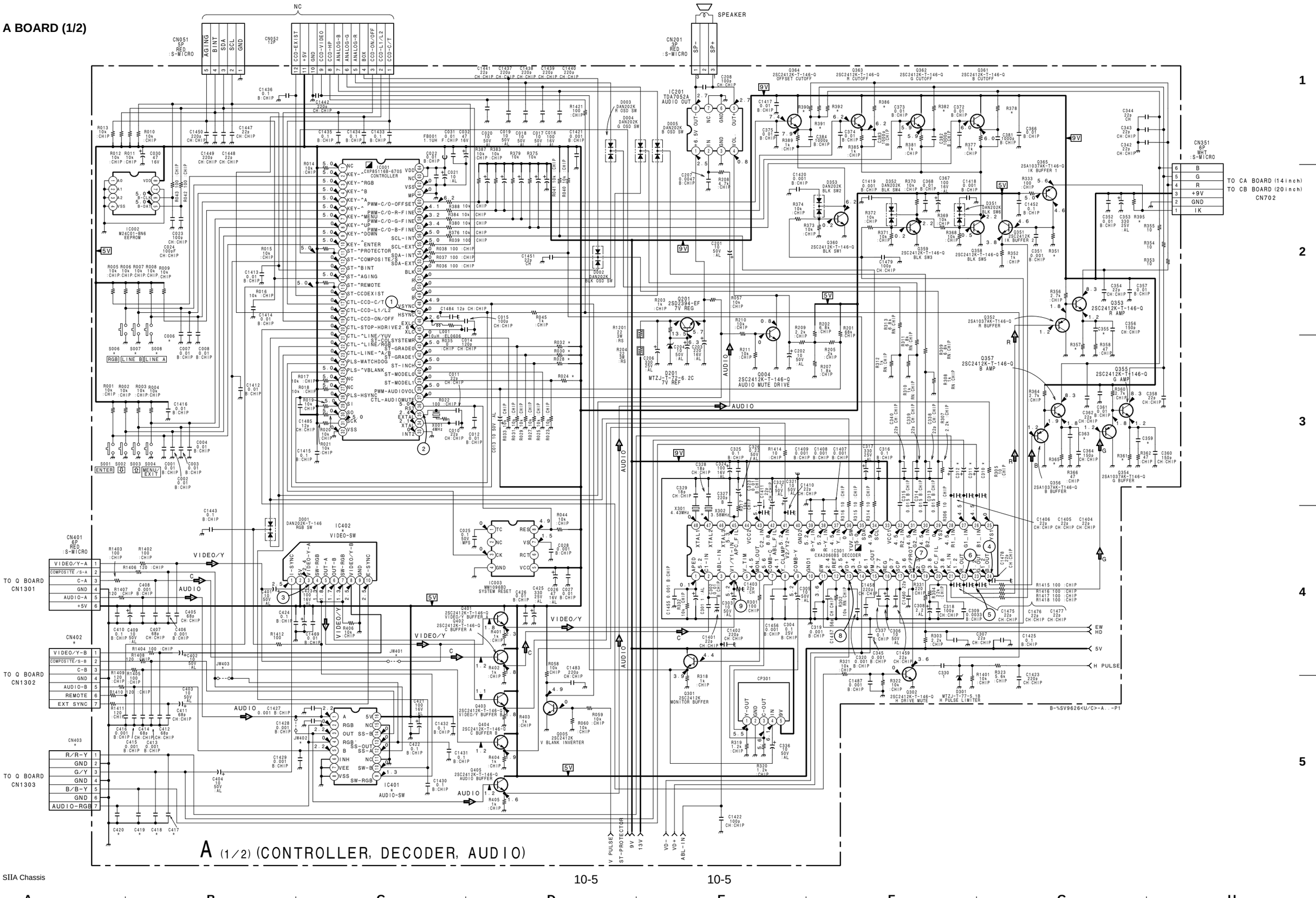


A (1/2) BOARD * MARK LIST

Ref.No \ Model	PVM-14N6A/E/U	PVM-14N5A/E/U	PVM-20N6A/E/U	PVM-20N5A/E/U	SSM-14N5A/E/U	SSM-20N5A/E/U	PVM-14N5MDE
C006	0.01 B:CHIP	#	0.01 B:CHIP	#	#	#	#
C310	0.1 25V B:CHIP	#	0.1 25V B:CHIP	#	#	#	#
C311	0.1 25V B:CHIP	#	0.1 25V B:CHIP	#	#	#	#
C312	0.1 25V B:CHIP	#	0.1 25V B:CHIP	#	#	#	#
C355	330p CH:CHIP	330p CH:CHIP	390p CH:CHIP	390p CH:CHIP	330p CH:CHIP	390p CH:CHIP	330p CH:CHIP
C359	330p CH:CHIP	330p CH:CHIP	390p CH:CHIP	390p CH:CHIP	330p CH:CHIP	390p CH:CHIP	330p CH:CHIP
C363	330p CH:CHIP	330p CH:CHIP	390p CH:CHIP	390p CH:CHIP	330p CH:CHIP	390p CH:CHIP	330p CH:CHIP
C417	68p CH:CHIP	68p CH:CHIP	68p CH:CHIP	68p CH:CHIP	0:CHIP	0:CHIP	68p CH:CHIP
C418	68p CH:CHIP	68p CH:CHIP	68p CH:CHIP	68p CH:CHIP	0:CHIP	0:CHIP	68p CH:CHIP
C419	68p CH:CHIP	68p CH:CHIP	68p CH:CHIP	68p CH:CHIP	0:CHIP	0:CHIP	68p CH:CHIP
C420	0.001 B:CHIP	0.001 B:CHIP	0.001 B:CHIP	0:CHIP	0:CHIP	0:CHIP	0.001 B:CHIP
CN402	7P WHT :S-MICRO	7P WHT :S-MICRO	7P WHT :S-MICRO	7P WHT :S-MICRO	#	#	7P WHT :S-MICRO
CN403	7P YEL :S-MICRO	#	7P YEL :S-MICRO	#	7P YEL :S-MICRO	7P YEL :S-MICRO	#
IC401	MC14052BCP	MC14052BCP	MC14052BCP	MC14052BCP	#	#	MC14052BCP
IC402	BA7604N	BA7604N	BA7604N	BA7604N	#	#	BA7604N
JW401	#	#	#	#	5MM	5MM	#
JW402	#	#	#	#	5MM	5MM	#
JW403	#	#	#	#	5MM	5MM	#
R024	#	#	#	#	#	#	10
R028	#	#	10	10	#	10	#
R030	10	#	10	#	#	#	#
R032	10	10	10	10	#	#	10
R351	6.2k :RN-CP	6.2k :RN-CP	15k :RN-CP	15k :RN-CP	6.2k :RN-CP	15k :RN-CP	6.2k :RN-CP
R357	390 :RN-CP	390 :RN-CP	300 :RN-CP	300 :RN-CP	390 :RN-CP	300 :RN-CP	390 :RN-CP
R361	390 :RN-CP	390 :RN-CP	300 :RN-CP	300 :RN-CP	390 :RN-CP	300 :RN-CP	390 :RN-CP
R365	390 :RN-CP	390 :RN-CP	300 :RN-CP	300 :RN-CP	390 :RN-CP	300 :RN-CP	390 :RN-CP
R378	6.2k :RN	6.2k :RN	4.7k :RN	4.7k :RN	6.2k :RN	4.7k :RN	6.2k :RN
R382	5.1k :RN	5.1k :RN	3.9k :RN	3.9k :RN	5.1k :RN	3.9k :RN	5.1k :RN
R386	4.3k :RN	4.3k :RN	3.3k :RN	3.3k :RN	4.3k :RN	3.3k :RN	4.3k :RN
R390	3.6k :RN-CP	3.6k :RN-CP	3.3k :RN-CP	3.3k :RN-CP	3.6k :RN-CP	3.3k :RN-CP	3.6k :RN-CP
R391	3.6k :RN-CP	3.6k :RN-CP	3.9k :RN-CP	3.9k :RN-CP	3.6k :RN-CP	3.9k :RN-CP	3.6k :RN-CP
R392	3.6k :RN-CP	3.6k :RN-CP	4.7k :RN-CP	4.7k :RN-CP	3.6k :RN-CP	4.7k :RN-CP	3.6k :RN-CP
R395	22k :RN-CP	22k :RN-CP	47k :RN-CP	47k :RN-CP	22k :RN-CP	47k :RN-CP	22k :RN-CP
S006	RGB-KEY	#	RGB-KEY	#	#	#	#
S007	LINE B	LINE B	LINE B	LINE B	#	#	LINE B
S008	LINE A	LINE A	LINE A	LINE A	#	#	LINE A

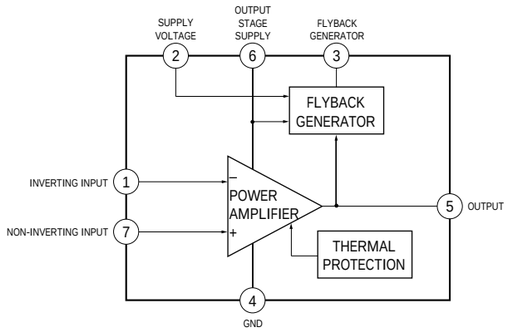
: NOT USED

A BOARD (1/2)

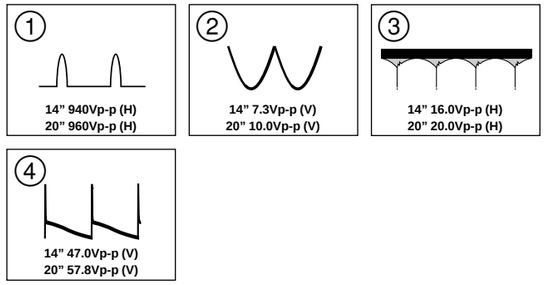


A (1/2) (CONTROLLER, DECODER, AUDIO)

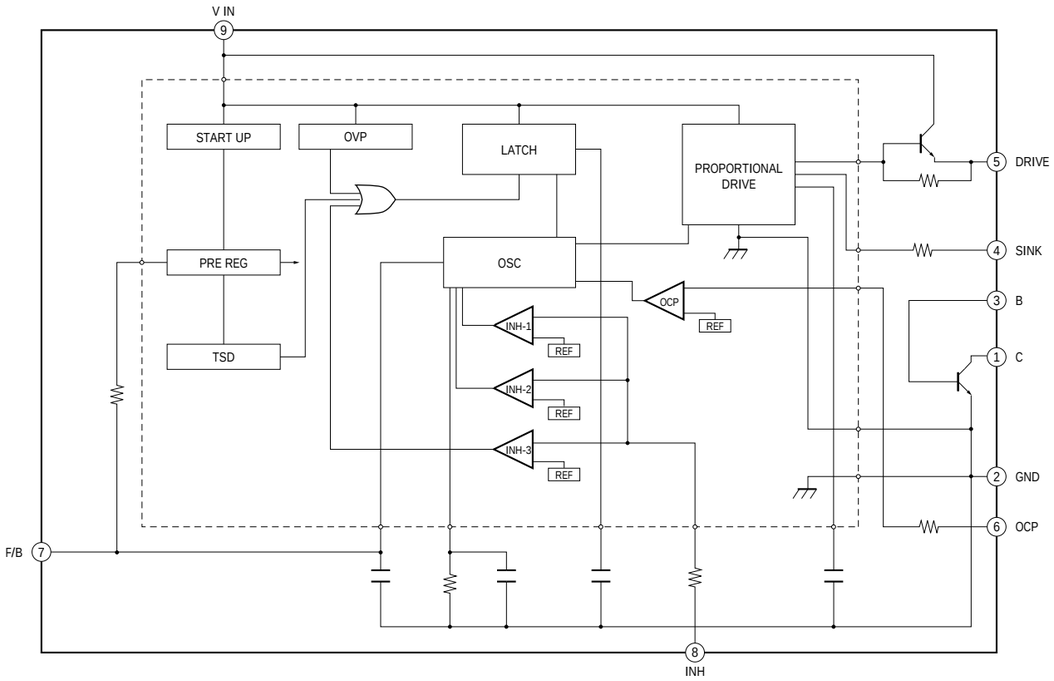
A (2/2) BOARD IC551 STV9739



A (2/2) BOARD WAVEFORMS



A (2/2) BOARD IC601 STR-S6708

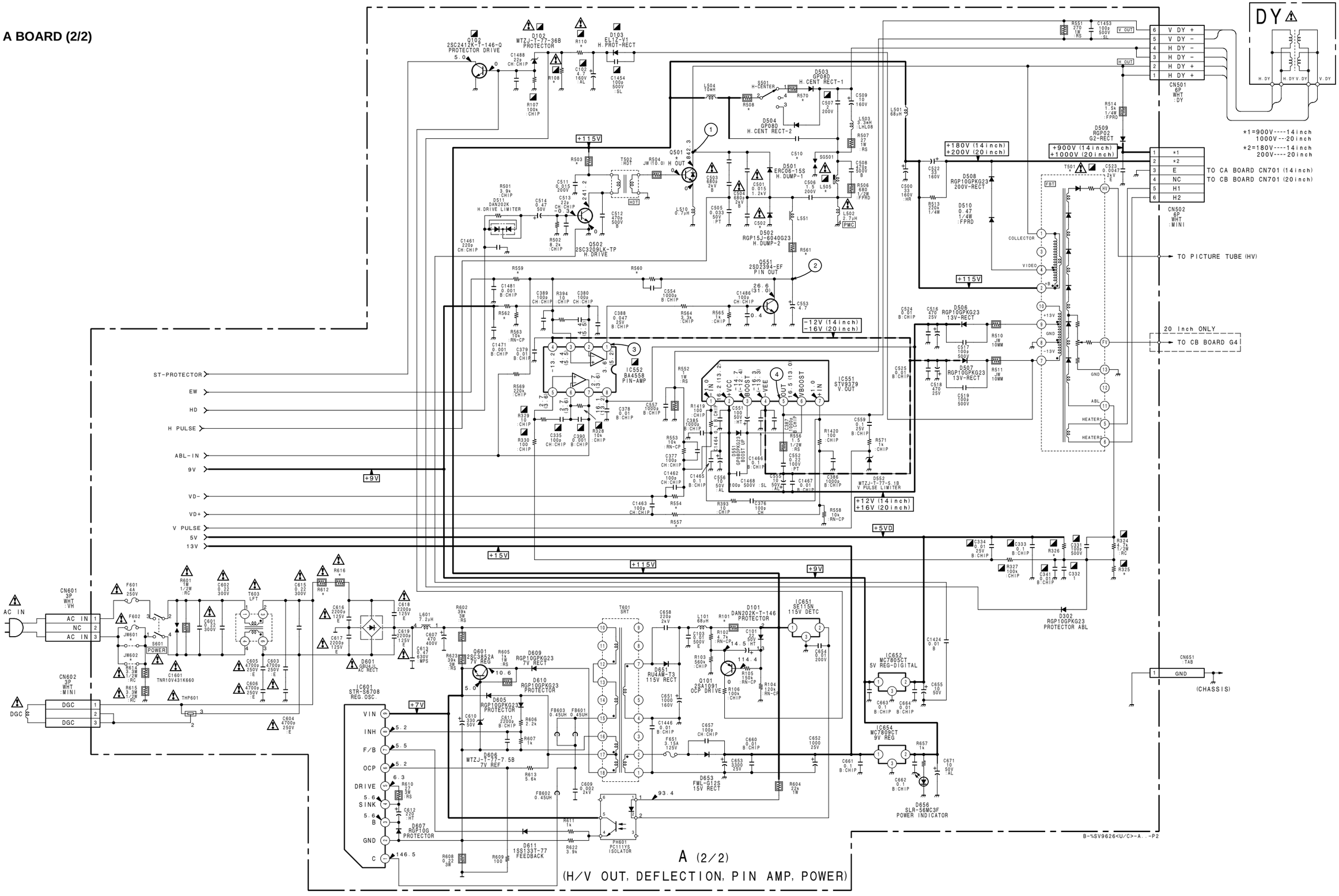


A (2/2) BOARD * MARK LIST

Ref.No \ Model	PVM-14N6A/E/U	PVM-14N5A/E/U	PVM-20N6A/E/U	PVM-20N5A/E/U	SSM-14N5A/E/U	SSM-20N5A/E/U	PVM-14N5MDE
C502	0.015 630V	0.015 630V	0.018 400V	0.018 400V	0.015 630V	0.018 400V	0.015 630V
C510	0.1 200V :PP	0.1 200V :PP	0.33 200V :PP	0.33 200V :PP	0.1 200V :PP	0.33 200V :PP	0.1 200V :PP
F602	#	#	#	#	#	#	4A/250V
JW601	10MM	10MM	10MM	10MM	10MM	10MM	#
JW602	10MM	10MM	10MM	10MM	10MM	10MM	#
L505	1-459-760-13	1-459-760-13	1-459-769-13	1-459-769-13	1-459-760-13	1-459-769-13	1-459-760-13
Q501	2SD1877S	2SD1877S	2SD1878-CA	2SD1878-CA	2SD1877S	2SD1878-CA	2SD1877S
R101	1.5 3W	1.5 3W	1.2 3W	1.2 3W	1.5 3W	1.2 3W	1.5 3W
R108	180k :RN-CP	180k :RN-CP	150k :RN-CP	150k :RN-CP	180k :RN-CP	150k :RN-CP	180k :RN-CP
R110	470k RN:CHIP	470k RN:CHIP	510k RN:CHIP	510k RN:CHIP	470k RN:CHIP	510k RN:CHIP	470k RN:CHIP
R325	12k :CHIP	12k :CHIP	8.2k :CHIP	8.2k :CHIP	12k :CHIP	8.2k :CHIP	12k :CHIP
R326	3.9k :CHIP	3.9k :CHIP	2.7k :CHIP	2.7k :CHIP	3.9k :CHIP	2.7k :CHIP	3.9k :CHIP
R503	4.7k 2W	4.7k 2W	3.3k 2W	3.3k 2W	4.7k 2W	3.3k 2W	4.7k 2W
R508	68 1W :RS	68 1W :RS	33 1W :RS	33 1W :RS	68 1W :RS	33 1W :RS	68 1W :RS
R554	30k :RN-CP	30k :RN-CP	24k :RN-CP	24k :RN-CP	30k :RN-CP	24k :RN-CP	30k :RN-CP
R557	30k :RN-CP	30k :RN-CP	24k :RN-CP	24k :RN-CP	30k :RN-CP	24k :RN-CP	30k :RN-CP
R559	15k :CHIP	15k :CHIP	3.9k :CHIP	3.9k :CHIP	15k :CHIP	3.9k :CHIP	15k :CHIP
R560	220k :CHIP	220k :CHIP	100k :CHIP	100k :CHIP	220k :CHIP	100k :CHIP	220k :CHIP
R561	IC-LINk	IC-LINk	8.2 1/4W :FPRD	8.2 1/4W :FPRD	IC-LINk	8.2 1/4W :FPRD	IC-LINk
R562	6.2k :RN-CP	6.2k :RN-CP	10k :RN-CP	10k :RN-CP	6.2k :RN-CP	10k :RN-CP	6.2k :RN-CP
R570	18 1W :RS	18 1W :RS	12 1W :RS	12 1W :RS	18 1W :RS	12 1W :RS	18 1W :RS
R612	1.5 10W :RB	1.5 10W :RB	1 10W RB	1 10W :RB	1.5 10W :RB	1 10W :RB	1.5 10W :RB
R616	1.5 10W :RB	1.5 10W :RB	1 10W RB	1 10W :RB	1.5 10W :RB	1 10W :RB	1.5 10W :RB
T501	NX-4301	NX-4301	NX-4008	NX-4008	NX-4301	NX-4008	NX-4301

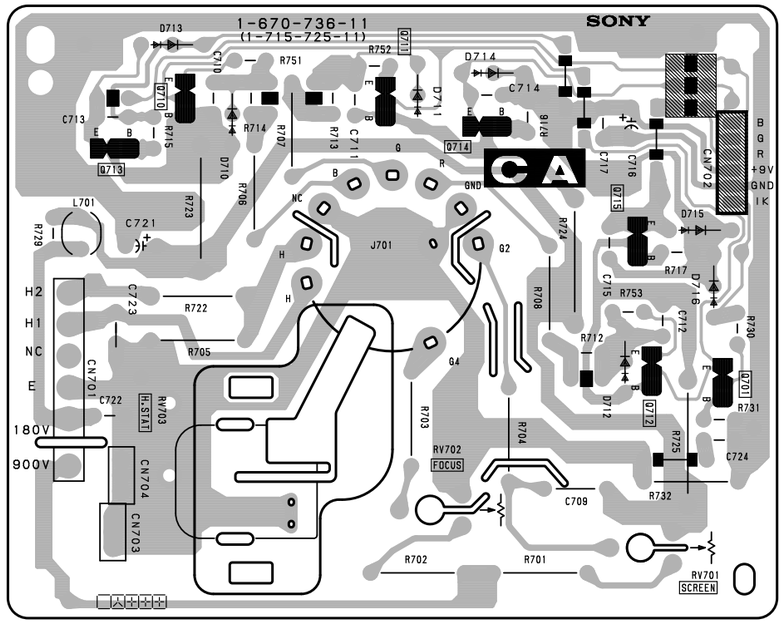
: NOT USED

A BOARD (2/2)



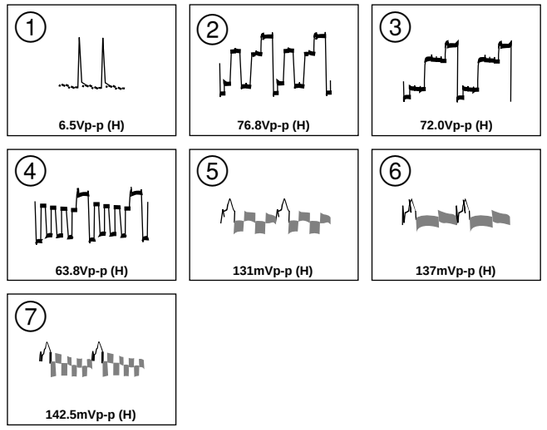
SIIA Chassis

CA BOARD



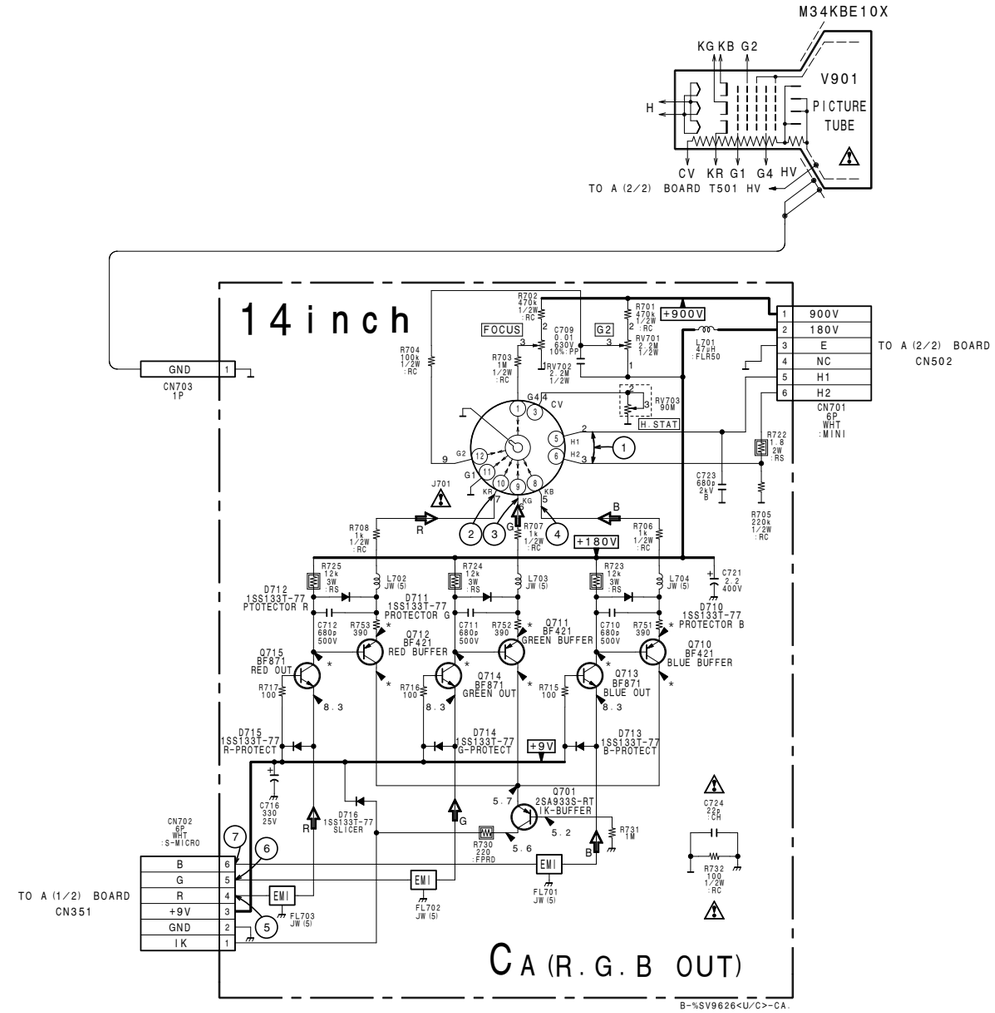
CA -B SIDE-
SUFFIX: -11

CA BOARD WAVEFORM

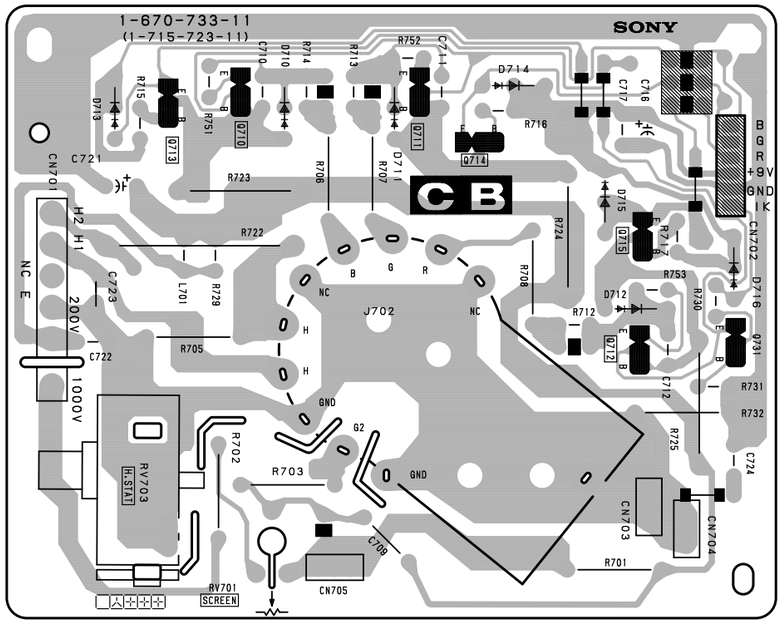


CA BOARD * MARK

		NTSC 3.58	NTSC 4.43	PAL	SECAM
Q710	B	154.1	154.4	140.1	141.2
	E	165.2	165.2	160	154.2
Q711	B	152.5	152.6	138.6	139.6
	E	164.7	164.7	160	160.4
Q712	B	153.2	153.2	135.5	136.7
	E	166.2	166.3	161.2	159.5

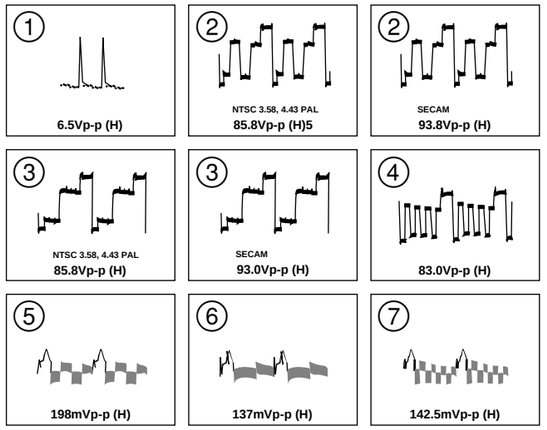


CB BOARD



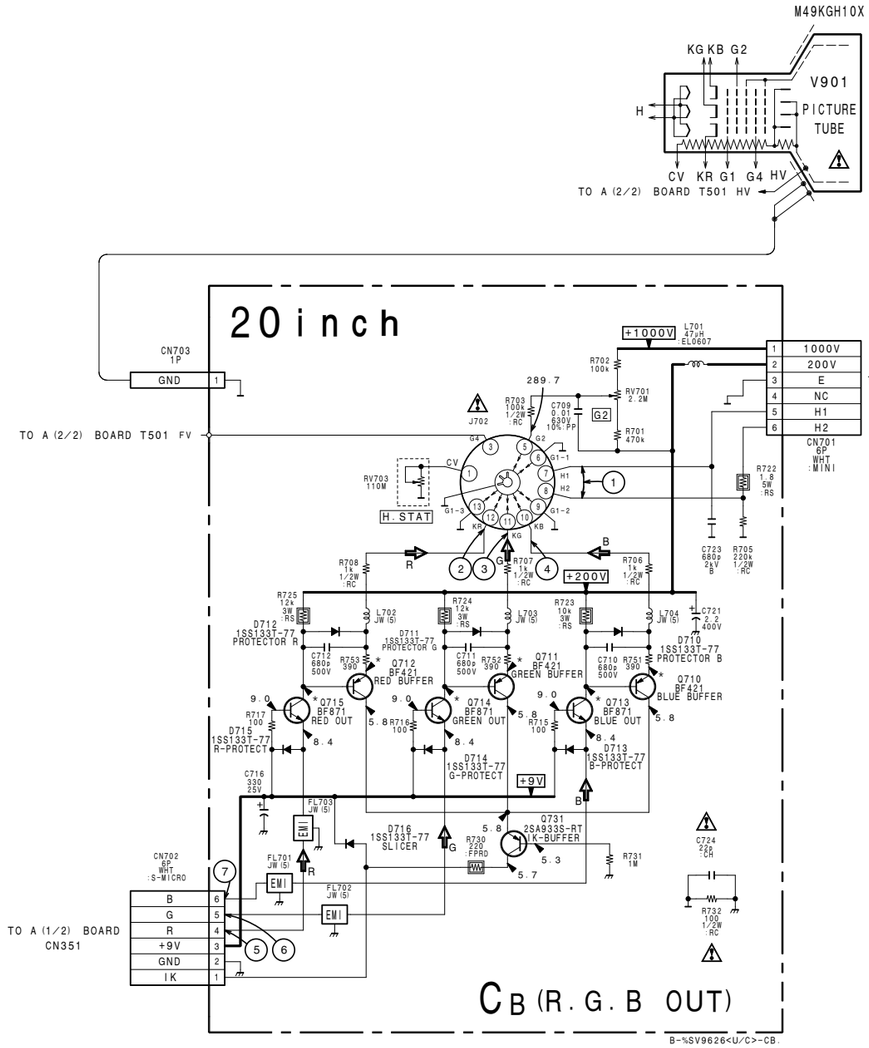
CB -B SIDE-
SUFFIX: -11

CB BOARD WAVEFORM

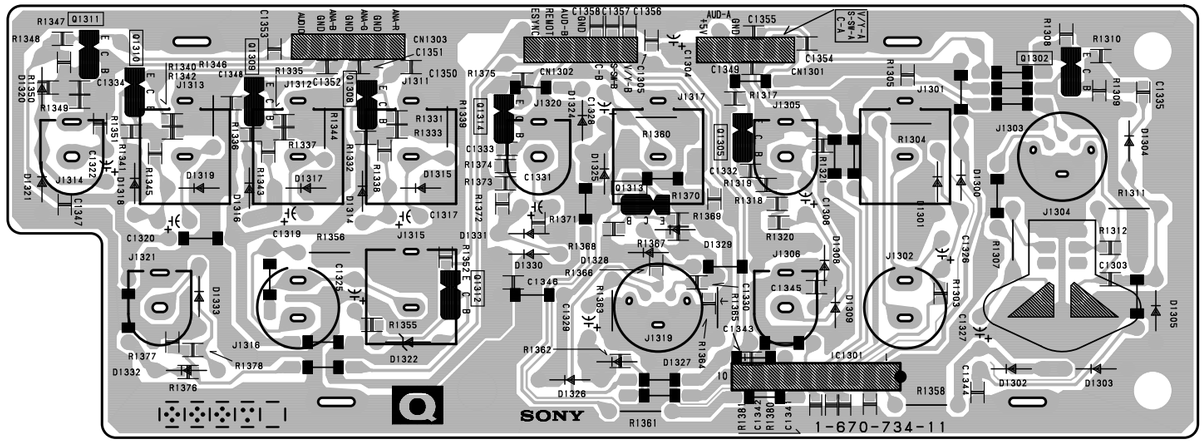


CB BOARD * MARK

		NTSC 3.58	NTSC 4.43	PAL	SECAM
Q710	B	142.1	141.5	141.8	143.8
	E	161.9	162.4	171.7	168.6
Q711	B	140.2	138.2	141.3	142.1
	E	166.5	166.4	184.6	184.6
Q712	B	137.4	137.2	138.6	140.4
	E	170.6	171.2	189.6	184.1



Q BOARD



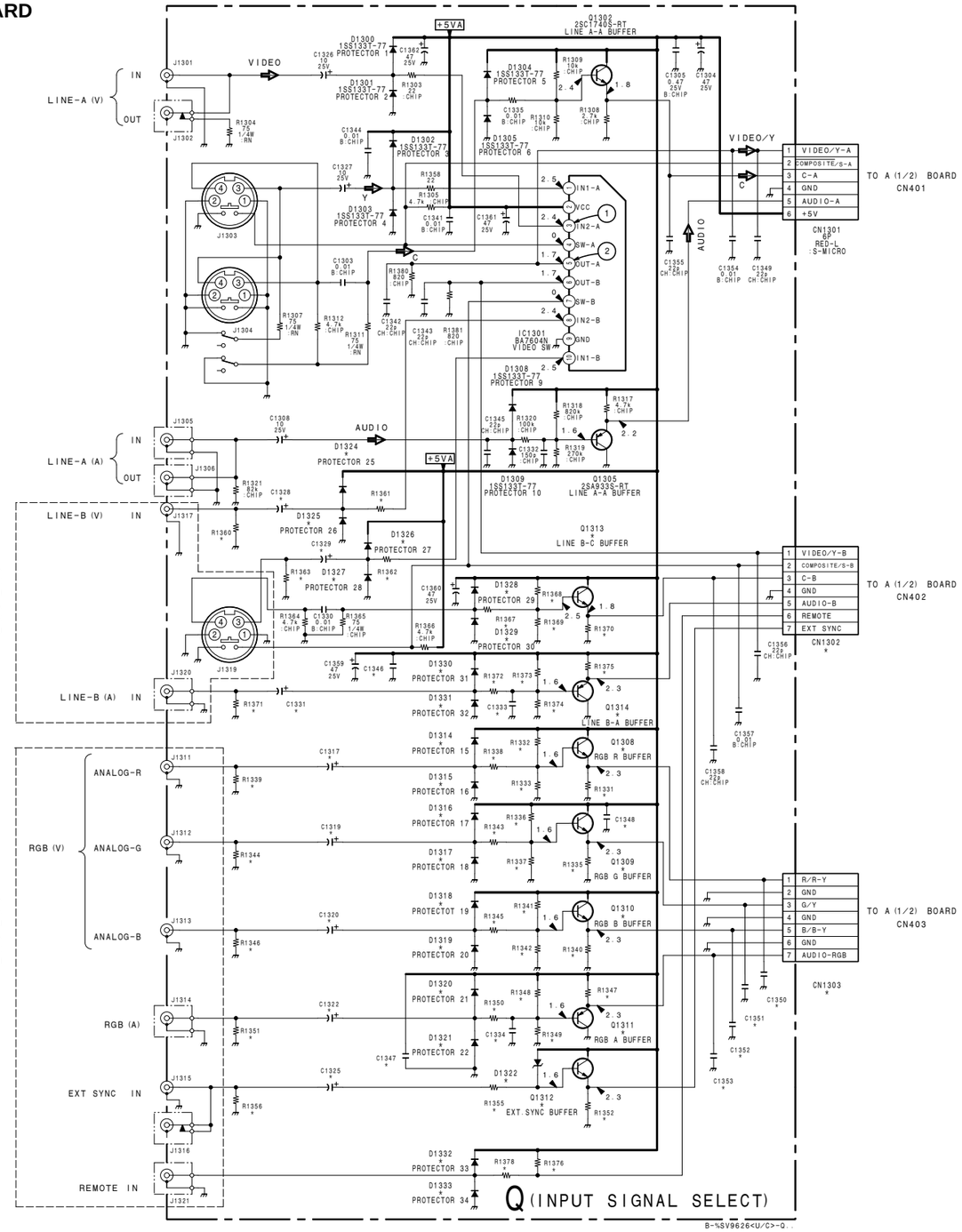
Q -B SIDE-
SUFFIX: -11

Q BOARD * MARK LIST

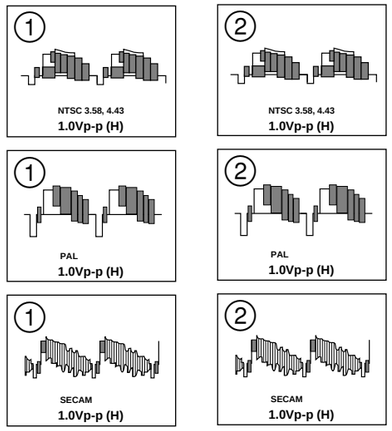
Ref.No \ Model	PVM-14N6A/E/U -20N6A/E/U	PVM-14N5A/E/U -20N5A/E/U -14N5MDE	SSM-14N5A/E/U -20N5A/E/U
C1317	10 25V	#	#
C1319	10 25V	#	#
C1320	10 25V	#	#
C1322	10 25V	#	#
C1325	10 25V	#	#
C1328	10 25V	10 25V	#
C1329	10 25V	10 25V	#
C1330	0.01 B:CHIP	0.01 B:CHIP	#
C1331	10 25V	10 25V	#
C1333	150p :CHIP	150p :CHIP	#
C1334	150p :CHIP	#	#
C1350	22p CH:CHIP	22p CH:CHIP	0 :CHIP
C1351	22p CH:CHIP	22p CH:CHIP	0 :CHIP
C1352	22p CH:CHIP	22p CH:CHIP	0 CHIP
C1353	22p CH:CHIP	22p CH:CHIP	0 CHIP
CN1302	7P WHT-L :S-MICRO	7P WHT-L :S-MICRO	#
CN1303	7P YEL-L :S-MICRO	#	7P YEL-L :S-MICRO
D1314	1SS133T-77	#	#
D1315	1SS133T-77	#	#
D1316	1SS133T-77	#	#
D1317	1SS133T-77	#	#
D1318	1SS133T-77	#	#
D1319	1SS133T-77	#	#
D1320	1SS133T-77	#	#
D1321	1SS133T-77	#	#
D1322	MTZJ-T-77	#	#
D1324	1SS133T-77	1SS133T-77	#
D1325	1SS133T-77	1SS133T-77	#
D1326	1SS133T-77	1SS133T-77	#
D1327	1SS133T-77	1SS133T-77	#
D1328	1SS133T-77	1SS133T-77	#
D1329	1SS133T-77	1SS133T-77	#
D1330	1SS133T-77	1SS133T-77	#
D1331	1SS133T-77	1SS133T-77	#
D1332	1SS133T-77	#	#
D1333	1SS133T-77	#	#
Q1308	2SC1740S	#	#
Q1309	2SC1740S	#	#
Q1310	2SC1740S	#	#
Q1311	2SA933S-RT	#	#
Q1312	2SC1740S	#	#
Q1313	2SC1740S	2SC1740S	#
Q1314	2SA933S-RT	2SA933S-RT	#
R1331	1k :CHIP	#	#
R1332	10k :CHIP	#	#
R1333	10k :CHIP	#	#
R1335	1k :CHIP	#	#
R1336	10k :CHIP	#	#
R1337	10k :CHIP	#	#
R1338	22 :CHIP	#	#
R1339	75 1/4w :RN	#	#
R1340	1k :CHIP	#	#
R1341	10k :CHIP	#	#
R1342	10k :CHIP	#	#
R1343	22 :CHIP	#	#
R1344	75 1/4W :RN	#	#
R1345	22 :CHIP	#	#
R1346	75 1/4w :RN	#	#
R1347	4.7k :CHIP	#	#
R1348	820k :CHIP	#	#
R1349	270k :CHIP	#	#
R1350	100k :CHIP	#	#
R1351	82k :CHIP	#	#
R1352	2.7k :CHIP	#	#
R1355	1k :CHIP	#	#
R1356	75 1/4W :RN	#	#
R1360	75 1/4W :RN	75 1/4W :RN	#
R1361	22	22	#
R1362	22 :CHIP	22 :CHIP	#
R1363	75 1/4W :RN	75 1/4W :RN	#
R1364	4.7k :CHIP	4.7k :CHIP	#
R1365	75 1/4W :RN	75 1/4W :RN	#
R1366	4.7k :CHIP	4.7k :CHIP	#
R1367	0.01 B:CHIP	0.01 B:CHIP	#
R1368	10k :CHIP	10k :CHIP	#
R1369	10k :CHIP	10k :CHIP	#
R1370	2.7k :CHIP	2.7k :CHIP	#
R1371	82k :CHIP	82k :CHIP	#
R1372	100k :CHIP	100k :CHIP	#
R1373	820k :CHIP	820k :CHIP	#
R1374	270k :CHIP	270k :CHIP	#
R1375	4.7k :CHIP	4.7k :CHIP	#
R1376	10k :CHIP	#	#
R1378	22 :CHIP	#	#

: NOT USED

Q BOARD



Q BOARD WAVEFORM



The material contained in this manual consists of information that is the property of Sony Corporation and is intended solely for use by the purchasers of the equipment described in this manual.
Sony Corporation expressly prohibits the duplication of any portion of this manual or the use thereof for any purpose other than the operation or maintenance of the equipment described in this manual without the express written permission of Sony Corporation.

English
98HJ0811-1
Printed in Japan
©1998. 8

Sony Corporation
Broadcasting & Professional Systems Company

9-976-686-01